Summary of Non-Halibut Catch From the Standardized Stock Assessment Survey Conducted by the International Pacific Halibut Commission in British Columbia From May 31 to July 24, 2005

K.L. Yamanaka, J.K. Lochead, K. Cooke, L.C. Lacko, and C. Dykstra

Fisheries and Oceans Canada
Science Branch, Pacific Region
Pacific Biological Station
Nanaimo, British Columbia
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SUMMARY OF NON-HALIBUT CATCH FROM THE STANDARDIZED STOCK ASSESSMENT SURVEY CONDUCTED BY THE INTERNATIONAL PACIFIC HALIBUT COMMISSION IN BRITISH COLUMBIA FROM MAY 31 TO JULY 24, 2005

by

K.L. Yamanaka[1], J.K. Lochead[1], K. Cooke[1], L.C. Lacko[1], and C. Dykstra[2]

[1]Fisheries and Oceans Canada
Science Branch, Pacific Region
Pacific Biological Station
Nanaimo, British Columbia
V9T 6N7

[2]International Pacific Halibut Commission
P.O. Box 95009
Seattle, Washington
98145-2009

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ABSTRACT

Yamanaka, K.L., Lochead, J.K., Cooke, K., Lacko, L.C., and Dykstra, C. 2007. Summary of non-halibut catch from the Standardized Stock Assessment Survey conducted by the International Pacific Halibut Commission in British Columbia from May 31 to July 24, 2005. Can. Tech. Rep. Fish. Aquat. Sci. 2689: vii + 55 p.

Since 2003, a third observer has been deployed on the International Pacific Halibut Commission's (IPHC) Standardized Stock Assessment (SSA) survey in British Columbia, IPHC regulatory area 2B. Similar to the two previous surveys, this document summarizes the non-halibut catch during the 2005 survey and for the first time constructs a time series from 1995 to 2005 of relative abundance indices for four species of rockfish: quillback (*Sebastes maliger*), yelloweye (*S. ruberrimus*), redbanded (*S. babcocki*) and rougheye (*S. aleutianus*). Negative growth rates are noted over the time series; annual relative growth rates range from -1.7 % for quillback rockfish to -9.1 % for yelloweye rockfish and the accumulated relative change over the 1995 to 2005 series are 15.9 % and 61.2 %, respectively.

RÉSUMÉ

Yamanaka, K.L., Lochead, J.K., Cooke, K., Lacko, L.C., and Dykstra, C. 2007. Summary of non-halibut catch from the Standardized Stock Assessment Survey conducted by the International Pacific Halibut Commission in British Columbia from May 31 to July 24, 2005. Can. Tech. Rep. Fish. Aquat. Sci. 2689: vii + 55 p.

Depuis 2003, un troisième technicien participe au recensement normalisé des stocks de la Colombie-Britannique dans la zone de réglementation 2B de la Commission internationale du flétan du Pacifique. Ce rapport résume les prises de poissons autres que le flétan du Pacifique réalisées dans le cadre du recensement de 2005, comme il l'a été fait pour les deux recensements précédents. Une première série chronologique d'indices d'abondance relative de quatre espèces de sébaste, soit le sébaste à dos épineux (*Sebastes maliger*), le sébaste aux yeux jaunes (*S. ruberrimus*), le sébaste à bandes rouges (*S. babcocki*) et le sébaste à oeil épineux (*S. aleutianus*), est également établie pour la période 1995-2005. Les taux de croissance sont négatifs pendant cette période; le taux de croissance relatif annuel varie, allant de – 1,7 % pour le sébaste à dos épineux à – 9,1 % pour le sébaste aux yeux jaunes. Le changement relatif accumulé pour ces deux espèces se chiffre respectivement à 15,9 % et 61,2 %.

1.0 INTRODUCTION

The International Pacific Halibut Commission's (IPHC) Standardized Stock Assessment (SSA) survey is a fixed-station longline survey which extends from southern Oregon to the Bering Sea. This survey has been conducted annually in British Columbia (regulatory area 2B) in various configurations since 1963 (www.iphc.washington.edu). Since 2003, the IPHC has provided the opportunity to deploy an additional technician during the survey to identify catch to species on a hook-by-hook basis and to collect biological samples (Yamanaka *et al.* 2004, Lochead *et al.* 2006). In addition to halibut, many other groundfish species are commonly caught on the survey including spiny dogfish (*Squalus acanthias*), sablefish (*Anoplopoma fimbria*) and rockfishes (*Sebastes spp.*).

Similar to past reports, this report summarizes the catch and effort by location information and biological sample data for the rockfish species sampled during the survey. Unlike the two previous surveys, no sablefish were sampled in 2005. Catch rate indices are constructed for yelloweye (*S. ruberrimus*), quillback (*S. maliger*), redbanded (*Sebastes babcocki*), and rougheye (*S. aleutianus*) rockfishes using partial hook-by-hook data between 1996 and 2002 together with complete species enumerations in 1995, and 2003 to 2005. Catch and effort data collected from the IPHC SSA in British Columbia provide informative coastwide relative abundance indices for many commonly caught species.

2.0 METHODS

2.1 IPHC Chartered Vessels and Survey Locations

The *F/V Star Wars II*, *F/V Pender Isle*, and *F/V Proud Venture* were chartered in 2005 to conduct the Canadian portion (Area 2B) of the IPHC 2005 SSA survey. *F/V Star Wars II* (CFV/VRN 20492) is an 80-foot, wood vessel skippered by Rob Tournier during the survey. The *F/V Pender Isle* (CFV/VRN 27282) is a 70-foot steel vessel, skippered by Garth Roberts. The *F/V Proud Venture* (CFV/VRN 23197) is a 70-foot steel vessel, skippered by Charles Harper.

The Canadian portion of the IPHC survey consists of 170 fixed survey stations and is divided into four charter regions: 'Vancouver', 'Goose Islands', 'St. James', and 'Charlotte'. Figure 1 shows the location of the IPHC fixed survey stations relative to the IPHC charter regions and the DFO management regions: North Coast (NC), Queen Charlotte Islands (QCI), Central Coast (CC) and West Coast Vancouver Island (WCVI). Data in this report are summarized according to the four DFO management regions.

2.3 Fishing Gear and Operations

Standardized "conventional" (fixed) longline fishing gear was deployed during the survey and standardized fishing operations followed, as required in the IPHC Charter Bid

Specifications (www.iphc.washington.edu). Fishing gear specifications and fishing operations are detailed in Yamanaka *et al.* (2004).

2.4 Data Collection

The hook-by-hook observations and biological sampling were conducted as described for the 2003 survey (Yamanaka *et al.* 2004). Appendix A details the biological sampling protocol.

2.5 Catch Rate

As in previous reports (Yamanaka *et al.* 2004), the catch rate U is defined as the total number of fish N divided by the number of intact skates M returned from the set. Mean species catch rates $\overline{U}_s$ are calculated as the sum of the catch rates by skate per set U_{is} divided by the number of sets n, where s denotes the species, and i denotes the set.

$$U_{is} = \frac{N_{is}}{M_i} \qquad \overline{U}_s = \frac{1}{n}\sum_{i=1}^{n}\frac{N_{is}}{M_i}$$

2.6 Relative Abundance Index

A relative abundance index is constructed from the IPHC SSA surveys for the years 1995 through to 2005. Species composition data compiled from the identification of the total catch is available for 1995 and from 2003 to 2005 and an estimated species composition is used from 1996 to 2002 (historic IPHC). For years with partial species composition data, the catch from the first 20 hooks of each skate in the set were expanded to estimate the total rockfish species composition for the set. Although the entire catch was identified to species during the 1995 survey, 2.78% of the rockfish were recorded as "unidentified rockfish". In this year, the catch rate index may be slightly underestimated for these unidentified species.

The spatial distribution of the survey stations has changed over time. In 1995 through to 1997, survey stations were grouped in triangular clusters and in 1998 to the present, survey stations are positioned equidistant from one another on a 10 nm square grid (Figure 2). Beginning in 1998, regulatory area 2B was divided into four survey regions: Vancouver, Goose, St. James and Charlottes. Surveys were conducted annually in all regions with the exception of Vancouver, which was surveyed in 1999 and 2001 to 2006. The relative abundance index from 1995 to 2005 includes only those survey stations that:

1. overlapped with the present grid stations by a radius less than 10 kilometres, and
2. were surveyed in all years

The stations used for the catch rate time series are shown in Figure 2 (right panel).

Station catch rates (C) are calculated as the total number of fish (N) divided by the number of effective skates (E) in the set. IPHC defines E as a skate of 100 circle hooks with 18-foot spacing and is used primarily to standardize survey data in years when the

number of hooks, hook spacing, or hook type varied. Mean species catch rates ($\bar{C}_s$) are estimated from all overlapping stations in the time series by year divided by the total number of stations (n).

$$C_{is} = \frac{N_{is}}{E_i} \qquad \bar{C}_s = \frac{1}{n}\sum_{i=1}^{n}\frac{N_{is}}{E_i}$$

From IPHC:

$$E = 1.52\,S\left(1 - e^{-0.006D}\right)\frac{H}{100}A.$$

where E =number of effective skates;
S = number of skates hauled;
D = hook spacing in feet,;
H = number of hooks;
A = adjustment value for differences among hook types

If the hook spacing is ≤ 4 feet, these skates are ineffective (effective skates = 0). In the years 1996 to 1999, there were fewer "effective skates" than "skates hauled" due to the fewer than 100 hooks per skate deployed in those years. In recent years (2000-2005), there is little to no difference between effective skate and skates hauled.

Non-zero catch rate data were log(2) transformed to allow the interpretation of the slope as an annual logarithmic growth rate b where a slope of 1 and -1 reflects a doubling and halving, respectively, of the catch rate (Schnute et al. 2004). Annual relative growth rates are calculated from the slope r of the regression line through the median values (Schnute et al. 2004)

$$r = 2^b - 1$$

and the accumulated relative change

$$R_l = 2^{b(l-1)} - 1$$

during a time series of l observations.

3.0 RESULTS AND DISCUSSION

3.1 Survey Locations

The *F/V Star Wars II* fished the 'Vancouver' and 'Goose Islands' regions between July 1 and 24, the *F/V Pender Isle* fished the 'St. James' region between the 31st of May and the

7th July, and the *F/V Proud Venture* fished the 'Charlotte' region between the 31st of May and the 20th of June (Figure 1 and Appendix B).

3.2 Catch Summary

The DFO GFBio database archives data from the 2005 IPHC SSA survey with TRIP_IDs 60247 (Pender Isle), 60248 (Proud Venture) and 60249 (Star Wars II).

Catch of fish, in numbers, by species is shown in Table 1. Spiny dogfish (*Squalus acanthias*), Pacific halibut (*Hippoglossus stenolepis*) and sablefish (*Anoplopoma fimbria*) are the three most commonly caught species on the survey, accounting for 78% of all fish caught. A total of 52.2 tonnes (t) of dressed halibut and 32.7 t of dressed rockfish were landed during the survey (Table 2).

3.2.1. Hook by Hook

Approximately half the hooks deployed on the survey returned empty and 30% of the hooks were occupied by a fish or an invertebrate (Table 3). One percent of the hooks went missing and one percent of the lines were snarled.

3.2.2. Biological Sampling

Biological samples were taken for 14 species of rockfish, including 1239, 1029 and 234 otolith pairs from redbanded, yelloweye and quillback rockfishes, respectively (Table 4). Rockfish length summaries by species, for all regions combined, and by survey region, are shown in Tables 5 through to Table 9. Rockfish length frequencies are shown in Figure 3. Rockfish sexual maturity summaries are shown in Table 10. The majority of the rockfish caught during the survey were sexually mature. Yelloweye rockfish age summaries are shown for all regions combined, and by region in Table 11. Age frequencies for yelloweye rockfish are shown in Figure 4. The mean age of female yelloweye rockfish is greater than that for males throughout the survey. The yelloweye rockfish from the Central Coast had the oldest mean age and the North Coast region had the youngest. The North Coast region also had the largest mean size for yelloweye rockfish.

3.3 Catch Rates

Overall mean catch rates were highest for redbanded and yelloweye rockfishes at 1.34 and 0.99 fish per skate, respectively (Table 12). The highest mean catch rate for redbanded rockfish occurred in the Central Coast region, while those for yelloweye and rougheye rockfishes occurred in the Queen Charlotte Islands region (Tables 13 to 16). The lowest catch rates for redbanded and yelloweye rockfishes were in the North Coast region.

The spatial distribution of rockfish catch rates (numbers per skate by species) are shown in Figure 5.

3.4 Relative abundance index

Relative abundance indices were constructed for four commonly caught rockfish species, quillback, yelloweye, redbanded and rougheye, using catch rate data from overlapping survey stations that were fished in all years between 1995 and 2005 (Appendix C). A high proportion of the stations fished in the survey did not yield a rockfish catch, from a low of 44% for redbanded rockfish to a high of 97% for quillback rockfish (Table 17). The non-zero catch rates were log(2) transformed and are shown for commonly caught rockfish in Table 17. For these common rockfish, boxplots of the non-zero $\log_2$ transformed catch rate data for the 1995 to 2005 time series are shown in the upper panels of Figures 6 to 9. The lower panels of the same figures show a plot of the median non-zero $\log_2$ transformed catch rate with the regression line. The slope of the regression line through the annual median values shows a declining trend for these rockfishes. Annual relative growth rates are -1.7 %, -9.1 %, -7 % and -6.8 %, for quillback, yelloweye, redbanded and rougheye rockfishes, respectively. The accumulated relative change over the time series of surveys from 1995 to 2005 is -15.9 %, -61.3 %, -51.6 % and -51.0 % for quillback, yelloweye, redbanded and rougheye rockfishes, respectively.

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Table 1. Summary of species catch in numbers of fish (descending) for the BC coast, each DFO management region of capture, and as a percent of total marine fish species.

Common Name	Taxonomic Name	Total	WCVI	QCI	NC	CC	% Total
SPINY DOGFISH	*SQUALUS ACANTHIAS*	15114	5633	3075	885	5521	43.31
PACIFIC HALIBUT	*HIPPOGLOSSUS STENOLEPIS*	7075	2354	2314	656	1751	20.27
SABLEFISH	*ANOPLOPOMA FIMBRIA*	5033	1778	1697	88	1470	14.42
ARROWTOOTH FLOUNDER	*ATHERESTHES STOMIAS*	1671	446	284	237	704	4.79
REDBANDED ROCKFISH	*SEBASTES BABCOCKI*	1597	143	357	7	1090	4.58
YELLOWEYE ROCKFISH	*SEBASTES RUBERRIMUS*	1174	287	455	23	409	3.36
LONGNOSE SKATE	*RAJA RHINA*	1011	278	188	59	486	2.90
ROUGHEYE ROCKFISH	*SEBASTES ALEUTIANUS*	541	31	458	0	52	1.55
SUNFLOWER STARFISH	*PYCNOPODIA HELIANTHOIDES*	467	199	49	139	80	-
QUILLBACK ROCKFISH	*SEBASTES MALIGER*	300	172	61	19	48	0.86
PACIFIC COD	*GADUS MACROCEPHALUS*	253	39	97	63	54	0.72
BIG SKATE	*RAJA BINOCULATA*	236	121	56	37	22	0.68
SHORTSPINE THORNYHEAD	*SEBASTOLOBUS ALASCANUS*	216	21	160	0	35	0.62
LINGCOD	*OPHIODON ELONGATUS*	201	83	81	2	35	0.58
SILVERGRAY ROCKFISH	*SEBASTES BREVISPINIS*	109	4	89	0	16	0.31
FISH-EATING STAR	*STYLASTERIAS FORRERI*	102	40	21	4	37	-
STARFISH	*ASTEROIDEA*	101	67	5	9	20	-
SPOTTED RATFISH	*HYDROLAGUS COLLIEI*	98	25	47	19	7	0.28
CANARY ROCKFISH	*SEBASTES PINNIGER*	69	25	36	0	8	0.20
PINK SCALLOP	*CHLAMYS RUBIDA*	30	30	0	0	0	-
SHORTRAKER ROCKFISH	*SEBASTES BOREALIS*	30	5	23	0	2	0.09
ANEMONE	*ACTINIARIA*	29	4	17	3	5	-
OCTOPUS	*OCTOPODA*	21	11	5	0	5	-
FISH	*PISCES*	19	0	9	4	6	0.05
PETRALE SOLE	*EOPSETTA JORDANI*	18	4	3	3	8	0.05
SANDPAPER SKATE	*BATHYRAJA INTERRUPTA*	18	0	8	0	10	0.05
SOUPFIN SHARK	*GALEORHINUS ZYOPTERUS*	17	10	0	1	6	0.05
BASKET STARS	*EURYALINA*	17	9	4	1	3	-
SEA PENS	*PENNATULACEA*	16	12	1	3	0	-
BOCACCIO	*SEBASTES PAUCISPINIS*	16	2	9	2	3	0.05
ROSETHORN ROCKFISH	*S. HELVOMACULATUS*	13	0	7	0	6	0.04
BLUE SHARK	*PRIONACE GLAUCA*	12	9	1	1	1	0.03
HYDROID	*HYDROZOA*	12	2	4	1	5	-
METRIDIUM	*METRIDIUM*	10	8	0	0	2	-
SEA URCHINS	*ECHINACEA*	10	5	3	0	2	-
YELLOWMOUTH ROCKFISH	*SEBASTES REEDI*	9	0	7	0	2	0.03
GLASS SPONGES	*HEXACTINELLIDA*	8	1	1	0	6	-
SOLASTERIDAE	*SOLASTERIDAE*	8	0	8	0	0	-
YELLOWTAIL ROCKFISH	*SEBASTES FLAVIDUS*	7	4	1	0	2	0.02
CHINA ROCKFISH	*SEBASTES NEBULOSUS*	7	4	1	0	2	0.02
PACIFIC HAKE	*MERLUCCIUS PRODUCTUS*	7	1	0	1	5	0.02
SKATES	*RAJIDAE*	6	0	4	0	2	0.02
BIVALVE MOLLUSCS	*BIVALVIA*	6	0	3	3	0	-
WALLEYE POLLOCK	*THERAGRA CHALCOGRAMMA*	5	1	3	0	1	0.01
PACIFIC SLEEPER SHARK	*SOMNIOSUS PACIFICUS*	5	0	4	0	1	0.01
OREGONTRITON	*FUSITRITON OREGONENSIS*	4	4	0	0	0	-
SEA CUCUMBER	*HOLOTHUROIDEA*	4	1	3	0	0	-
SCALLOP	*PECTINIDAE*	4	0	4	0	0	-
SEA WHIP	*OSTEOCELLA SEP.*	3	1	0	2	0	-
WOLF EEL	*ANARRHICHTHYS OCELLATUS*	3	1	0	0	2	0.01
BATH SPONGES	*DEMOSPONGIAE*	3	0	1	0	2	-
COPPER ROCKFISH	*SEBASTES CAURINUS*	2	2	0	0	0	0.01
GREENSTRIPED ROCKFISH	*SEBASTES ELONGATUS*	2	2	0	0	0	0.01
STRIPED SUN STARFISH	*SOLASTER STIMPSONI*	2	2	0	0	0	-
PARAGORGIA PACIFICA	*PARAGORGIA PACIFICA*	2	1	1	0	0	-
SOUTHERN ROCK SOLE	*LEPIDOPSETTA BILINEATA*	2	1	0	1	0	0.01
SPONGES	*PORIFERA*	2	0	2	0	0	-
GIANT WRYMOUTH	*CRYPTACANTHODES GIG.*	2	0	0	2	0	0.01
SALMON SHARK	*LAMNA DITROPIS*	1	1	0	0	0	0.00
TEALIA	*TEALIA*	1	1	0	0	0	-
SPINY SCALLOP	*CHLAMYS HASTATA*	1	1	0	0	0	-
PACIFIC SANDDAB	*CITHARICHTHYS SORDIDUS*	1	1	0	0	0	0.00
PACIFIC GRENADIER	*CORYPHAENOIDES ACROLEPIS*	1	0	0	0	1	0.00
OCTOPODIDAE	*OCTOPODIDAE*	1	0	0	0	1	-
Marine Fish Totals		**34901**	**11330**	**8881**	**2142**	**11383**	**94.49**

Table 2. Total landed weights (kg) by species and fish state, for 170 BC stations in the 2005 IPHC survey.

Species	Fish state	Kilograms
Pacific halibut	Fresh, dressed, head-off	52,245
Yelloweye rockfish	Fresh, gilled and gutted	6,216
Redbanded rockfish	Fresh, gilled and gutted	4,589
Rougheye rockfish	Fresh, gilled and gutted	1,220
Quillback rockfish	Fresh, gilled and gutted	530
Shortspine thornyhead	Fresh, gilled and gutted	425
Silvergray rockfish	Fresh, gilled and gutted	264
Shortraker rockfish	Fresh, gilled and gutted	225
Canary rockfish	Fresh, gilled and gutted	122
Bocaccio	Fresh, gilled and gutted	68
Yellowmouth rockfish	Fresh, gilled and gutted	14
Black rockfish	Fresh, gilled and gutted	10
Yellowtail rockfish	Fresh, gilled and gutted	7
China rockfish	Fresh, gilled and gutted	6
Rosethorn rockfish	Fresh, gilled and gutted	0
ALL ROCKFISH		13,697
Pacific cod	Fresh, round	562
Walleye pollock	Fresh, round	5

Table 3. Summary of hook observations by description, DFO GFBio database code, number of hooks retrieved, and percent of total hooks.

HOOK YIELD

Description	GFBio Code	# hooks	% of total
Empty hook	1	58198	48.95
Bait on hook	2	11072	9.31
Animal on hook (fish or invertebrate)	3	34858	29.32
Species head on hook	4	532	0.45
Species dropped off hook	5	242	0.20
Bait skin on hook	6	13137	11.05
Hook not observed	7	858	0.72
Total		**118897**	**100.00**

HOOK CONDTION

Description	GFBio Code	# hooks	% of total
Missing hook	1	858	0.72
Bent hook	2	92	0.08
Broken hook	3	0	0.00
Broken at rail	4	0	0.00
Hook condition not observed	5	0	0.00
Normal	6	117947	99.20
Total		**118897**	**100.00**

LINE CONDITION

Description	GFBio Code	# hooks	% of total
Normal	1	117597	98.91
Snarl in line	2	1291	1.09
Line not observed	3	0	0.00
Gear parted	4	9	0.01
Total		**118897**	**100.00**

Table 4. Number of specimens, by species, measured for length, examined for gender and maturity state, and with otoliths removed for ageing.

Species	Lengths	Sex	Maturities	Otoliths
Redbanded rockfish	1379	1231	1229	1239
Yelloweye rockfish	1065	1021	1019	1029
Rougheye rockfish	525	0	0	0
Quillback rockfish	234	234	233	234
Shortspine Thornyhead	151	0	0	0
Silvergray rockfish	47	0	0	0
Canary rockfish	39	0	0	0
Shortraker rockfish	29	0	0	0
Bocaccio	7	0	0	0
China rockfish	6	6	6	6
Yellowtail rockfish	4	0	0	0
Copper rockfish	2	2	2	2
Greenstriped rockfish	2	0	0	0
Yellowmouth rockfish	2	0	0	0
All rockfish	**3492**	**2494**	**2489**	**2510**

Table 5. Summary of rockfish fork length (mm) for IPHC area 2B (entire BC coast).

All Areas	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	744	486	369	471	250	402	506
Standard Error	20.68	8.87	2.79	20.50	20.00	1.86	1.44
Median	740	485	370	471	250	401	505
Mode	-	485	-	-	-	394	494
Standard Deviation	54.72	55.38	6.83	28.99	28.28	28.38	53.46
Sample Variance	2993.95	3066.82	46.67	840.50	800.00	805.42	2857.77
Range	156	248	19	41	40	183	354
Minimum	660	340	359	450	230	293	295
Maximum	816	588	378	491	270	476	649
Count	7	39	6	2	2	234	1379

All Areas	Rougheye	Shortraker	SSThornyhead	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	507	692	471	547	563	471	524
Standard Error	2.41	15.61	7.86	7.91	1.94	29.00	10.05
Median	500	708	440	551	562	471	525
Mode	500	752	430	570	540	-	-
Standard Deviation	55.24	84.05	96.63	54.21	63.38	41.01	20.09
Sample Variance	3051.91	7065.10	9337.86	2938.61	4016.67	1682.00	403.67
Range	470	309	512	246	345	58	48
Minimum	320	551	302	410	377	442	498
Maximum	790	860	814	656	722	500	546
Count	525	29	151	47	1065	2	4

Table 6. Summary of rockfish fork length (mm) for the Queen Charlotte Islands region.

Queen Charlotte Islands	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	734	481	-	-	-	378	492
Standard Error	32.19	8.97	-	-	-	3.41	3.45
Median	730	485	-	-	-	383	489
Mode	-	485	-	-	-	394	529
Standard Deviation	64.37	36.97	-	-	-	25.75	53.50
Sample Variance	4144.00	1366.99	-	-	-	663.31	2862.34
Range	156	131	-	-	-	132	260
Minimum	660	421	-	-	-	293	355
Maximum	816	552	-	-	-	425	615
Count	4	17	-	-	-	57	241

Queen Charlotte Islands	Rougheye	Shortraker	SSThornyhead	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	507	701	470	549	554	-	-
Standard Error	2.54	18.81	8.24	10.00	3.06	-	-
Median	500	715	437	543	549	-	-
Mode	495	-	430	516	549	-	-
Standard Deviation	53.48	88.22	98.58	57.44	63.00	-	-
Sample Variance	2860.55	7782.98	9717.89	3299.48	3969.59	-	-
Range	273	309	512	211	335	-	-
Minimum	390	551	302	445	387	-	-
Maximum	663	860	814	656	722	-	-
Count	445	22	143	33	424	-	-

Table 7. Summary of rockfish fork length (mm) for the North Coast region.

North Coast	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	-	-	-	-	-	411	542
Standard Error	-	-	-	-	-	5.36	25.61
Median	-	-	-	-	-	408	570
Mode	-	-	-	-	-	394	-
Standard Deviation	-	-	-	-	-	23.36	67.75
Sample Variance	-	-	-	-	-	545.67	4590.29
Range	-	-	-	-	-	74	192
Minimum	-	-	-	-	-	378	428
Maximum	-	-	-	-	-	452	620
Count	-	-	-	-	-	19	7

North Coast	Rougheye	Shortraker	SSThornyhead	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	-	-	-	-	575	-	-
Standard Error	-	-	-	-	10.26	-	-
Median	-	-	-	-	588	-	-
Mode	-	-	-	-	540	-	-
Standard Deviation	-	-	-	-	49.21	-	-
Sample Variance	-	-	-	-	2421.83	-	-
Range	-	-	-	-	197	-	-
Minimum	-	-	-	-	472	-	-
Maximum	-	-	-	-	669	-	-
Count	-	-	-	-	23	-	-

Table 8. Summary of rockfish fork length (mm) for the Central Coast region.

Central Coast	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	783	496	367	-	-	394	510
Standard Error	22.50	25.18	8.00	-	-	4.27	1.67
Median	783	509	367	-	-	398	512
Mode	-	-	-	-	-	375	494
Standard Deviation	31.82	61.68	11.31	-	-	21.77	52.61
Sample Variance	1012.50	3804.97	128.00	-	-	474.00	2767.82
Range	45	168	16	-	-	74	301
Minimum	760	420	359	-	-	356	347
Maximum	805	588	375	-	-	430	648
Count	2	6	2	-	-	26	998

Central Coast	Rougheye	Shortraker	SSThornyhead	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	508	745	487	537	569	471	522
Standard Error	10.54	7.00	18.22	15.43	3.42	29.00	24.00
Median	500	745	491	559	575	471	522
Mode	540	-	-	570	540	-	-
Standard Deviation	73.75	9.90	51.53	51.17	62.48	41.01	33.94
Sample Variance	5439.59	98.00	2655.55	2617.87	3903.83	1682.00	1152.00
Range	470	14	157	170	341	58	48
Minimum	320	738	409	410	378	442	498
Maximum	790	752	566	580	719	500	546
Count	49	2	8	11	334	2	2

Table 9. Summary of rockfish fork length (mm) for the West Coast of Vancouver Island region.

West Coast Vancouver Island	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	710	488	371	471	250	412	501
Standard Error	0.00	17.62	2.72	20.50	20.00	2.15	4.68
Median	710	510	370	471	250	411	496
Mode	-	530	-	-	-	394	501
Standard Deviation	-	70.47	5.45	28.99	28.28	24.70	53.96
Sample Variance	-	4966.67	29.67	840.50	800.00	610.30	2911.79
Range	0	240	13	41	40	149	354
Minimum	710	340	365	450	230	327	295
Maximum	710	580	378	491	270	476	649
Count	1	16	4	2	2	132	133

West Coast Vancouver Island	Rougheye	Shortraker	SSThornyhead	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	505	634	-	560	566	-	525
Standard Error	8.54	22.49	-	17.32	3.85	-	5.00
Median	490	620	-	560	567	-	525
Mode	530	-	-	-	557	-	-
Standard Deviation	47.53	50.30	-	30.00	64.84	-	7.07
Sample Variance	2258.92	2530.00	-	900.00	4204.73	-	50.00
Range	190	130	-	60	323	-	10
Minimum	440	590	-	530	377	-	520
Maximum	630	720	-	590	700	-	530
Count	31	5	-	3	284	-	2

Table 10. Sexual maturity, assessed visually, for male and female rockfish species showing the number (proportion) of fish in each maturity stage and the total number of fish sampled.

MALE	Number (Proportion) of Individuals in Each Maturity Stage							Total
ROCKFISH	Immature	Maturing	Developing	Developed	Running	Spent	Resting	N
China	0	0	1 (0.200)	0	0	0	4 (0.800)	5
Copper	0	0	1 (0.500)	0	0	0	1 (0.500)	2
Quillback	1 (0.010)	7 (0.067)	40 (0.385)	1 (0.010)	0	4 (0.0.38)	51 (0.490)	104
Redbanded	4 (0.008)	10 (0.019)	277 (0.526)	150 (0.285)	1 (0.002)	31 (0.059)	54 (0.102	527
Yelloweye	25 (0.044)	41 (0.072)	391 (0.685)	19 (0.033)	0	52 (0.091)	43 (0.075)	571
Total Number	30 (0.025)	58 (0.048)	710 (0.587)	170 (0.141)	1 (0.001)	87 (0.072)	153 (0.127)	1209

FEMALE	Number (Proportion) of Individuals in Each Maturity Stage							Total
ROCKFISH	Immature	Maturing	Mature	Fertilized	Larvae	Spent	Resting	N
China	0	0	1 (1.000)	0	0	0	0	1
Copper	0	10 (1.000)	0	0	0	0	0	10
Quillback	0	0	109 (0.916)	1 (0.008)	0	7 (0.059)	2 (0.017)	119
Redbanded	0	47 (0.067)	529 (0.754)	15 (0.021)	10 (0.014)	62 (0.088)	39 (0.056)	702
Yelloweye	5 (0.011)	38 (0.085)	299 (0.667)	33 (0.074)	16 (0.036)	31 (0.069)	26 (0.058)	448
Total Number	5 (0.004)	95 (0.074)	938 (0.733)	49 (0.038)	26 (0.020)	100 (0.078)	67 (0.052)	1280

Table 11. Summary statistics by DFO management region for yelloweye rockfish age data collected on the IPHC 2005 SSA Survey.

Male and Female Ages (years)	ALL REGIONS	WCVI	CC	NC	QCI
Mean	38.1	37.7	40.6	32.0	36.5
Standard Error	0.57	1.09	1.04	2.95	0.88
Median	30.0	30.0	36.5	24.5	29.0
Mode	25	25	23	21	24
Standard Deviation	18.13	18.31	18.93	13.84	17.27
Sample Variance	328.57	335.10	358.30	191.52	298.10
Minimum	10	10	13	14	14
Maximum	108	90	103	58	108
Count	1019	283	330	22	384
Confidence Level (95.0%)	1.11	2.14	2.05	6.14	1.73

Male Ages (years)	ALL REGIONS	WCVI	CC	NC	QCI
Mean	35.8	36.4	38.1	24.5	34.2
Standard Error	0.69	1.39	1.29	2.62	1.01
Median	29.0	28.0	31.5	21.5	28.0
Mode	23	23	24	21	24
Standard Deviation	16.52	17.86	17.15	9.06	14.82
Sample Variance	272.86	319.00	294.09	82.09	219.65
Minimum	10	10	13	14	15
Maximum	100	88	95	46	100
Count	571	165	178	12	216
Confidence Level (95.0%)	1.36	2.75	2.54	5.76	1.99

Female Ages (years)	ALL REGIONS	WCVI	CC	NC	QCI
Mean	40.9	39.5	43.6	41.0	39.5
Standard Error	0.93	1.73	1.66	4.26	1.51
Median	36.0	32.0	42.5	46.5	31.5
Mode	25	25	23	-	24
Standard Deviation	19.64	18.84	20.48	13.47	19.63
Sample Variance	385.89	354.82	419.33	181.56	385.30
Minimum	12	12	14	21	14
Maximum	108	90	103	58	108
Count	448	118	152	10	168
Confidence Level (95.0%)	1.82	3.43	3.28	9.64	2.99

Table 12. Summary of rockfish catch rate (numbers of fish per skate) for IPHC area 2B (entire BC coast).

All Areas	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	0.013	0.058	0.006	0.002	0.002	0.252	1.3421
Standard Error	0.005	0.015	0.003	0.001	0.001	0.076	0.1926
Median	0	0	0	0	0	0	0
Standard Deviation	0.064	0.201	0.042	0.015	0.015	0.990	2.5113
Sample Variance	0.004	0.040	0.002	0.000	0.000	0.980	6.3069
Minimum	0	0	0	0	0	0	0
Maximum	0.57	1.86	0.43	0.14	0.14	7.71	13.14
Total Number of Skates	170	170	170	170	170	170	170
Confidence Level (95.0%)	0.010	0.030	0.006	0.002	0.002	0.150	0.380
Coefficient of Variation	4.823	3.465	7.190	9.192	9.192	3.928	1.871

All Areas	Rosethorn	Rougheye	Shortraker	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	0.011	0.455	0.025	0.091	0.987	0.008	0.006
Standard Error	0.004	0.175	0.014	0.032	0.169	0.005	0.002
Median	0	0	0	0	0	0	0
Standard Deviation	0.052	2.280	0.187	0.413	2.200	0.060	0.028
Sample Variance	0.003	5.198	0.035	0.171	4.840	0.004	0.001
Minimum	0	0	0	0	0	0	0
Maximum	0.43	18.86	2.29	4.86	12.57	0.71	0.14
Total Number of Skates	170	170	170	170	170	170	170
Confidence Level (95.0%)	0.008	0.345	0.028	0.063	0.333	0.009	0.004
Coefficient of Variation	4.745	5.015	7.426	4.515	2.230	8.030	4.840

Table 13. Summary of rockfish catch rate (numbers of fish per skate) for the Queen Charlotte Islands region.

Queen Charlotte Islands	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	0.028	0.114	0.003	-	-	0.194	1.134
Standard Error	0.016	0.051	0.003	-	-	0.084	0.329
Median	0	0	0	-	-	0	0
Standard Deviation	0.108	0.339	0.021	-	-	0.564	2.209
Sample Variance	0.012	0.115	0.000	-	-	0.318	4.878
Minimum	0	0	0	-	-	0	0
Maximum	0.57	1.86	0.14	-	-	2.57	10
Total Number of Skates	45	45	45	45	45	45	45
Confidence Level (95.0%)	0.032	0.102	0.006	-	-	0.169	0.664
Coefficient of Variation	3.795	2.961	6.708	-	-	2.909	1.948

Queen Charlotte Islands	Rosethorn	Rougheye	Shortraker	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	0.022	1.454	0.073	0.282	1.444	0.022	0.003
Standard Error	0.009	0.632	0.051	0.114	0.414	0.017	0.003
Median	0	0	0	0	0	0	0
Standard Deviation	0.060	4.238	0.343	0.762	2.776	0.113	0.021
Sample Variance	0.004	17.961	0.118	0.581	7.704	0.013	0.000
Minimum	0	0	0	0	0	0	0
Maximum	0.29	18.86	2.29	4.86	12.57	0.71	0.14
Total Number of Skates	45	45	45	45	45	45	45
Confidence Level (95.0%)	0.018	1.273	0.103	0.229	0.834	0.034	0.006
Coefficient of Variation	2.744	2.914	4.711	2.698	1.922	5.104	6.708

Table 14. Summary of rockfish catch rate (numbers of fish per skate) for the North Coast region.

North Coast	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	0.024	-	-	-	-	0.226	0.083
Standard Error	0.024	-	-	-	-	0.139	0.062
Median	0	-	-	-	-	0	0
Standard Deviation	0.084	-	-	-	-	0.481	0.214
Sample Variance	0.007	-	-	-	-	0.231	0.046
Minimum	0	-	-	-	-	0	0
Maximum	0.29	-	-	-	-	1.57	0.71
Sum	0.29	-	-	-	-	2.71	1
Total Number of Skates	12	12	12	12	12	12	12
Confidence Level (95.0%)	0.053	-	-	-	-	0.305	0.136
Coefficient of Variation	3.464	-	-	-	-	2.129	2.571

North Coast	Rosethorn	Rougheye	Shortraker	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	-	-	-	-	0.273	-	-
Standard Error	-	-	-	-	0.217	-	-
Median	-	-	-	-	0	-	-
Standard Deviation	-	-	-	-	0.752	-	-
Sample Variance	-	-	-	-	0.565	-	-
Minimum	-	-	-	-	0	-	-
Maximum	-	-	-	-	2.57	-	-
Sum	-	-	-	-	3.28	-	-
Total Number of Skates	12	12	12	12	12	12	12
Confidence Level (95.0%)	-	-	-	-	0.477	-	-
Coefficient of Variation	-	-	-	-	2.749	-	-

Table 15. Summary of rockfish catch rate (numbers of fish per skate) for the Central Coast region.

Central Coast	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	0.007	0.019	0.005	-	-	0.114	2.595
Standard Error	0.004	0.008	0.005	-	-	0.064	0.426
Median	0	0	0	-	-	0	1.5
Standard Deviation	0.031	0.062	0.037	-	-	0.496	3.297
Sample Variance	0.001	0.004	0.001	-	-	0.246	10.869
Minimum	0	0	0	-	-	0	0
Maximum	0.14	0.29	0.29	-	-	2.71	13.14
Total Number of Skates	60	60	60	60	60	60	60
Confidence Level (95.0%)	0.008	0.016	0.010	-	-	0.128	0.852
Coefficient of Variation	4.396	3.250	7.746	-	-	4.341	1.271

Central Coast	Rosethorn	Rougheye	Shortraker	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	0.014	0.124	0.005	0.038	0.974	0.005	0.005
Standard Error	0.009	0.065	0.005	0.016	0.319	0.003	0.003
Median	0	0	0	0	0	0	0
Standard Deviation	0.068	0.503	0.037	0.126	2.470	0.025	0.025
Sample Variance	0.005	0.253	0.001	0.016	6.099	0.001	0.001
Minimum	0	0	0	0	0	0	0
Maximum	0.43	3.71	0.29	0.86	11.86	0.14	0.14
Total Number of Skates	60	60	60	60	60	60	60
Confidence Level (95.0%)	0.018	0.130	0.010	0.033	0.638	0.007	0.007
Coefficient of Variation	4.774	4.069	7.746	3.319	2.535	5.431	5.431

Table 16. Summary of rockfish catch rate (numbers of fish per skate) for the West Coast Vancouver Island region.

West Coast Vancouver Is.	Bocaccio	Canary	China	Copper	Greenstriped	Quillback	Redbanded
Mean	0.005	0.067	0.011	0.005	0.005	0.464	0.386
Standard Error	0.004	0.021	0.008	0.004	0.004	0.218	0.129
Median	0	0	0	0	0	0	0
Standard Deviation	0.027	0.154	0.062	0.027	0.027	1.587	0.939
Sample Variance	0.001	0.024	0.004	0.001	0.001	2.520	0.882
Minimum	0	0	0	0	0	0	0
Maximum	0.14	0.71	0.43	0.14	0.14	7.71	4.29
Sum	0.28	3.55	0.57	0.28	0.28	24.58	20.45
Total Number of Skates	53	53	53	53	53	53	53
Confidence Level (95.0%)	0.007	0.043	0.017	0.007	0.007	0.438	0.259
Coefficient of Variation	5.098	2.306	5.743	5.098	5.098	3.423	2.434

West Coast Vancouver Is.	Rosethorn	Rougheye	Shortraker	Silvergray	Yelloweye	Yellowmouth	Yellowtail
Mean	-	0.083	0.013	0.011	0.774	-	0.011
Standard Error	-	0.066	0.013	0.005	0.186	-	0.005
Median	-	0	0	0	0	-	0
Standard Deviation	-	0.479	0.098	0.037	1.352	-	0.037
Sample Variance	-	0.230	0.010	0.001	1.827	-	0.001
Minimum	-	0	0	0	0	-	0
Maximum	-	3.43	0.71	0.14	4.86	-	0.14
Sum	-	4.42	0.71	0.56	41.01	-	0.56
Total Number of Skates	53	53	53	53	53	53	53
Confidence Level (95.0%)	-	0.132	0.027	0.010	0.373	-	0.010
Coefficient of Variation	-	5.746	7.280	3.533	1.747	-	3.533

Table 17. Catch data summary for quillback, yelloweye, redbanded and rougheye rockfishes caught on the IPHC SSA survey from 1995 to 2005 for overlapping stations fished in all years. For each year, the number of stations fished, the percent of zero catches, and the $\log_2$ median catch rates (#fish/effective skate) of the non-zero catches.

		quillback		yelloweye		redbanded		rougheye	
	#stations	percent	median	percent	median	percent	median	percent	median
Year	fished	zero catch	log(2)#/skate	zero catch	log(2)#/skate	zero catch	log(2)#/skate	zero catch	log(2)#/skate
1995	1995	89	-1.315	71	2.146	61	0.608	91	0.009
1996	1996	85	-0.720	62	1.281	44	0.442	88	1.270
1997	1997	93	0.731	66	2.053	66	0.663	93	1.524
1998	1998	94	1.104	68	1.477	51	0.507	93	0.316
1999	1999	95	0.316	67	0.901	54	0.539	89	0.901
2000	2000	93	0.509	72	2.237	60	0.597	87	0.509
2001	2001	97	1.494	73	2.434	60	0.600	92	1.594
2002	2002	96	0.038	77	1.580	73	0.733	93	0.994
2003	2003	91	0.179	61	-0.184	54	0.541	85	-2.006
2004	2004	91	-2.006	64	0.801	50	0.500	86	1.594
2005	2005	95	-0.312	58	0.509	49	0.487	87	-0.806

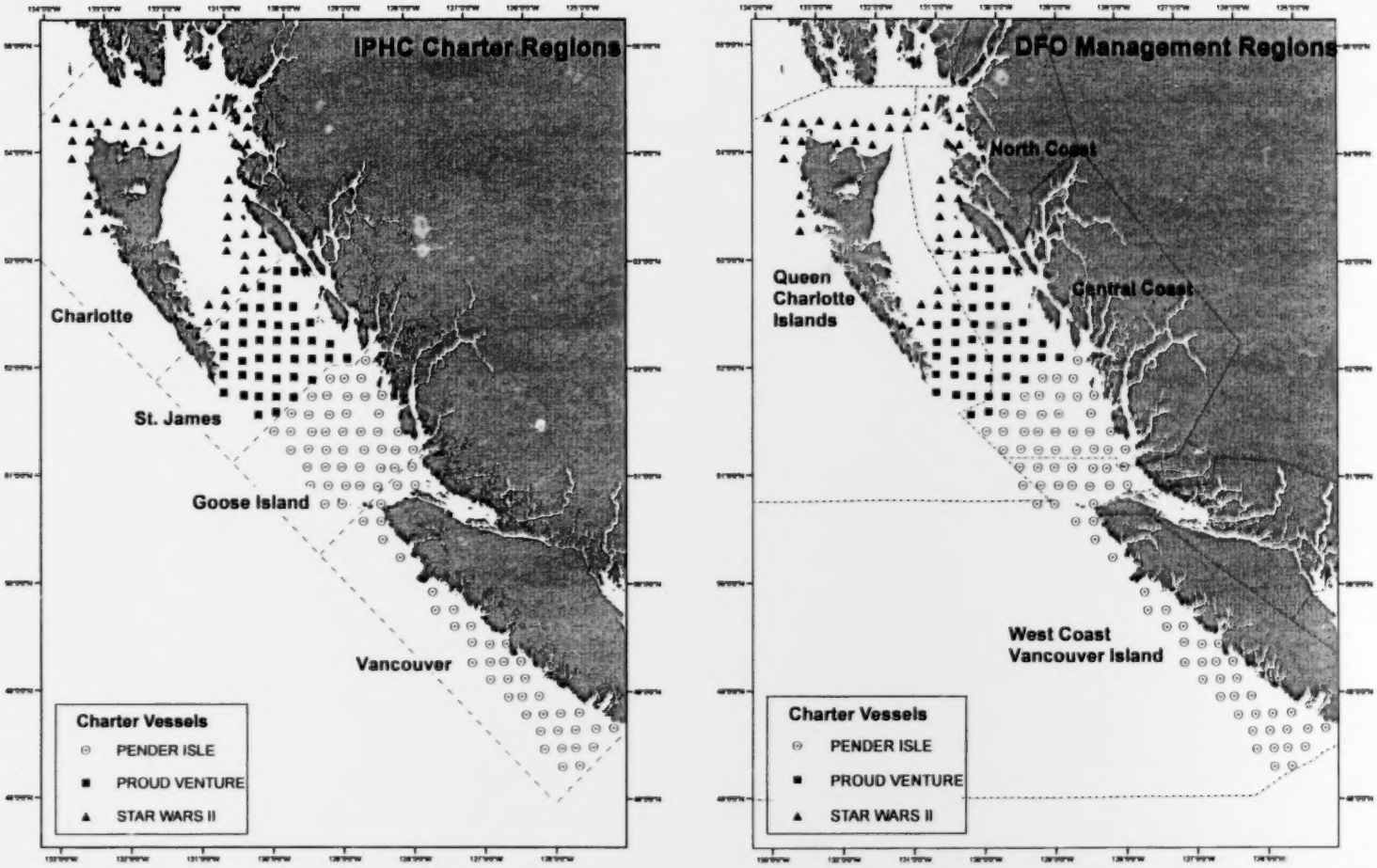

Figure 1. Distribution of IPHC survey stations by charter vessel illustrating IPHC charter region boundaries (left panel) and DFO management region boundaries (right panel).

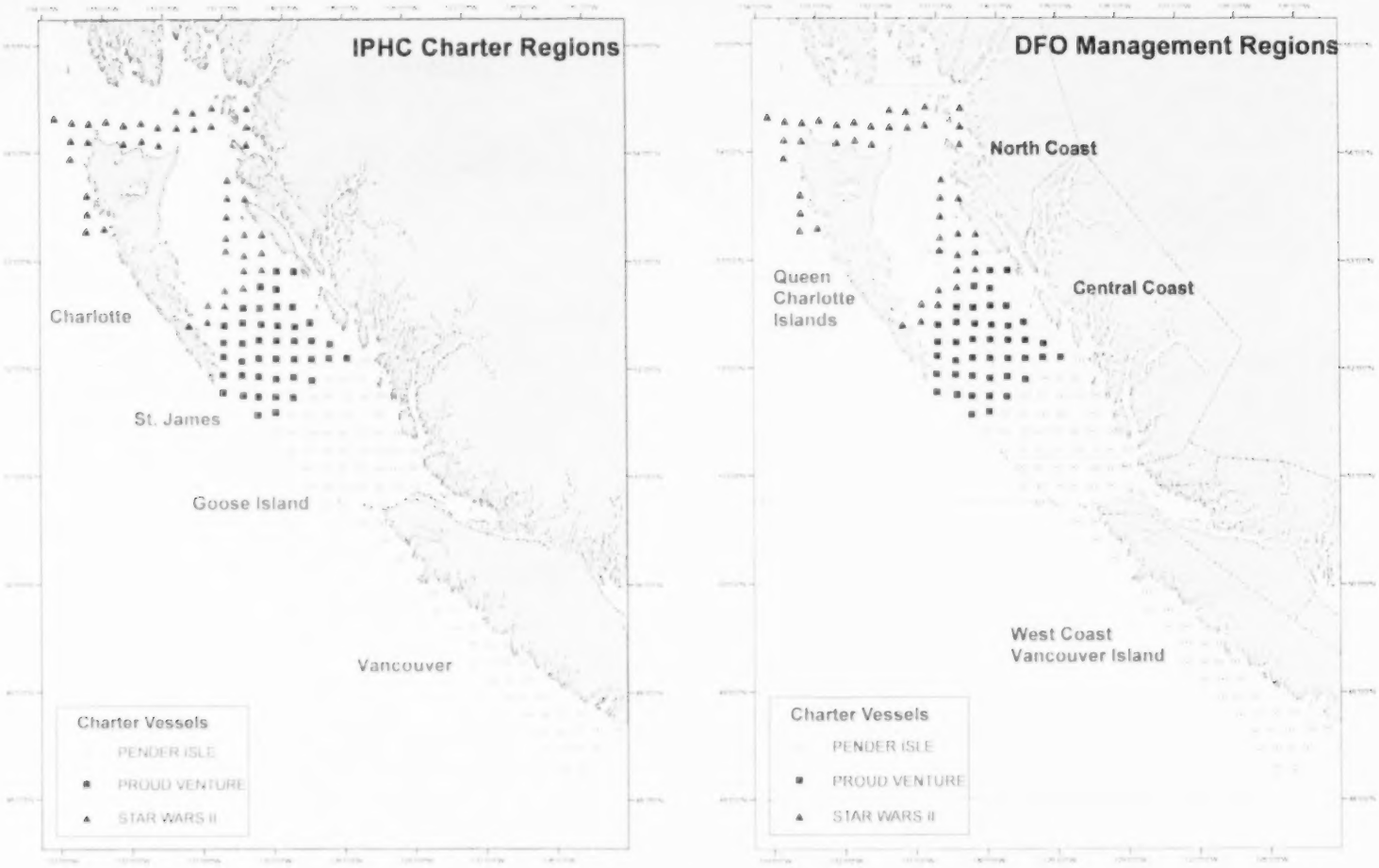

Figure 1. Distribution of IPHC survey stations by charter vessel illustrating IPHC charter region boundaries (left panel) and DFO management region boundaries (right panel).

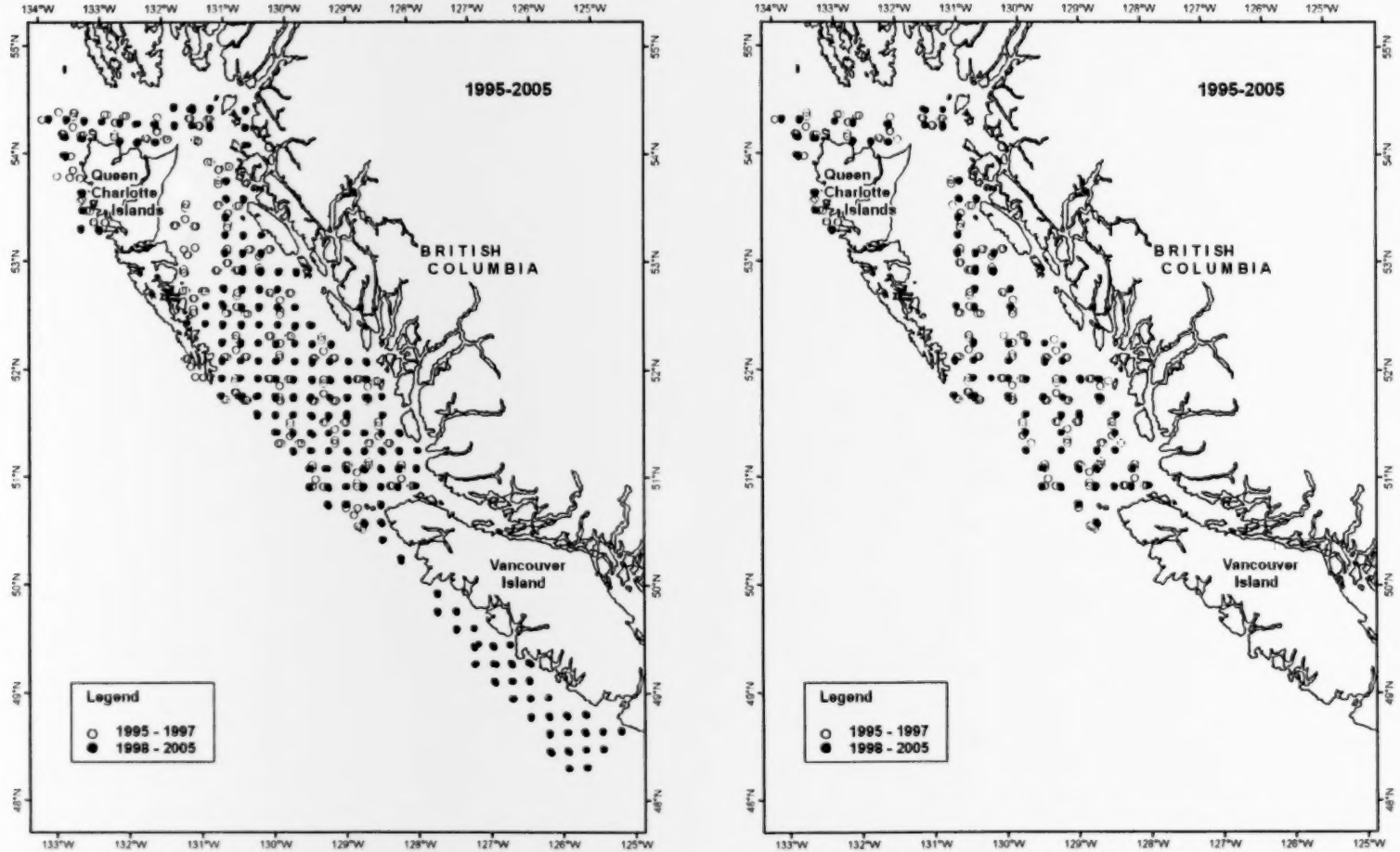

Figure 2. Locations of all 1995 - 1997 and 1998 - 2005 IPHC SSA survey stations (left panel), and locations of the IPHC SSA survey stations that were sampled in all years 1995 – 2005 and located within 10 kilometres of each other and therefore included in the relative abundance index calculations (right panel).

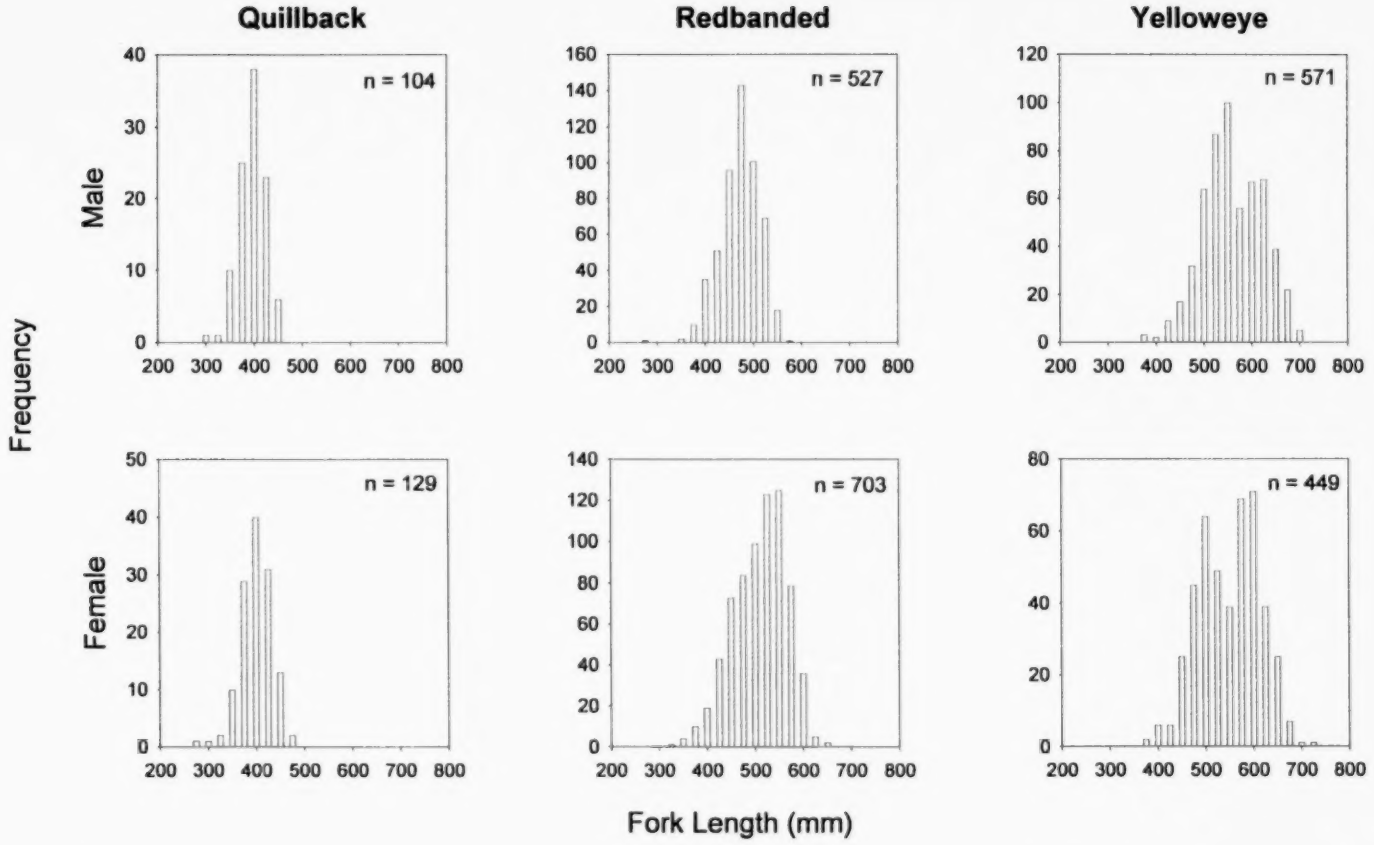

Figure 3. Length frequency distributions by sex for quillback, redbanded, and yelloweye rockfishes with sample sizes (n).

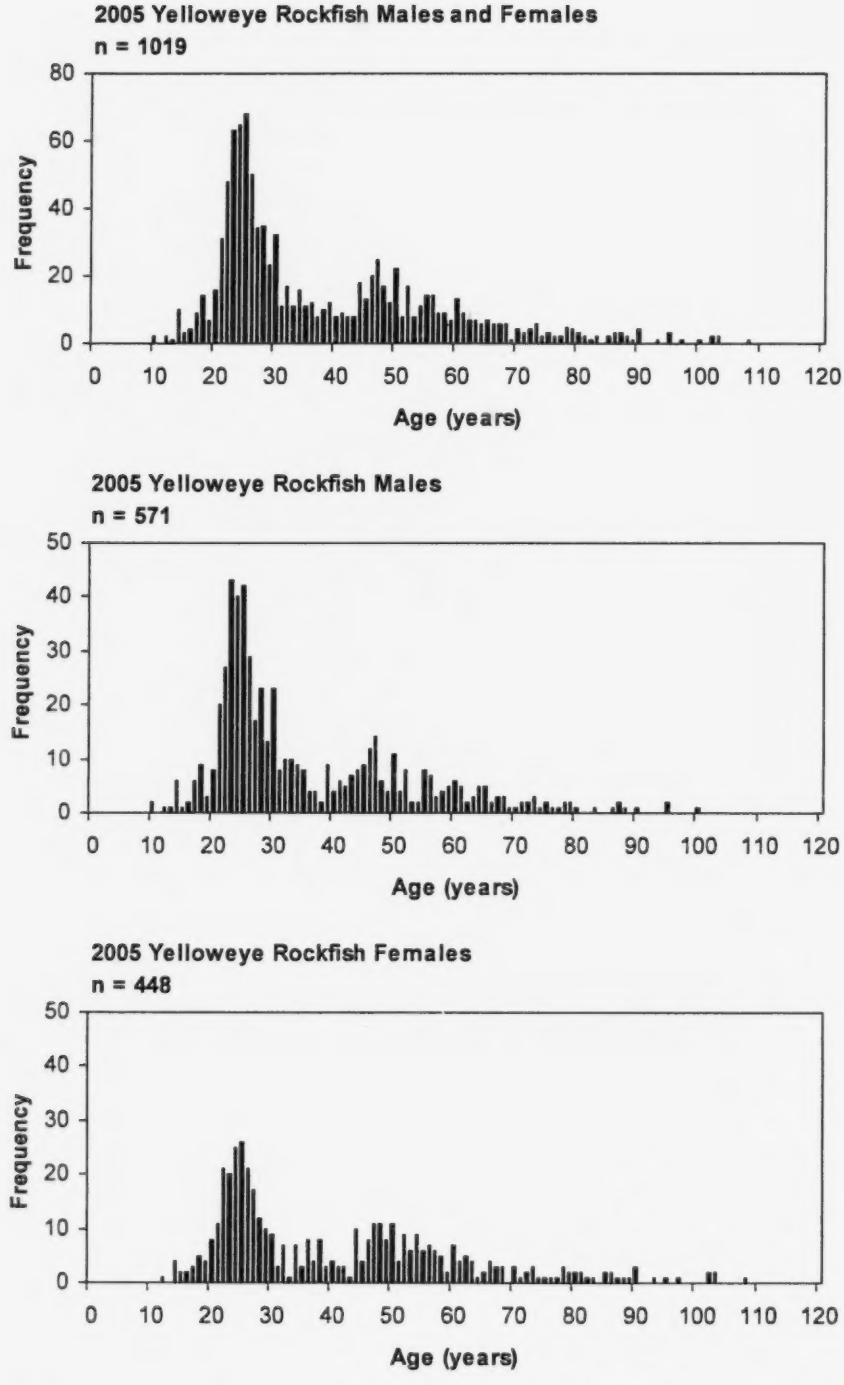

Figure 4. Yelloweye rockfish age frequency histograms by sex using data collected on the 2005 IPHC SSA Survey.

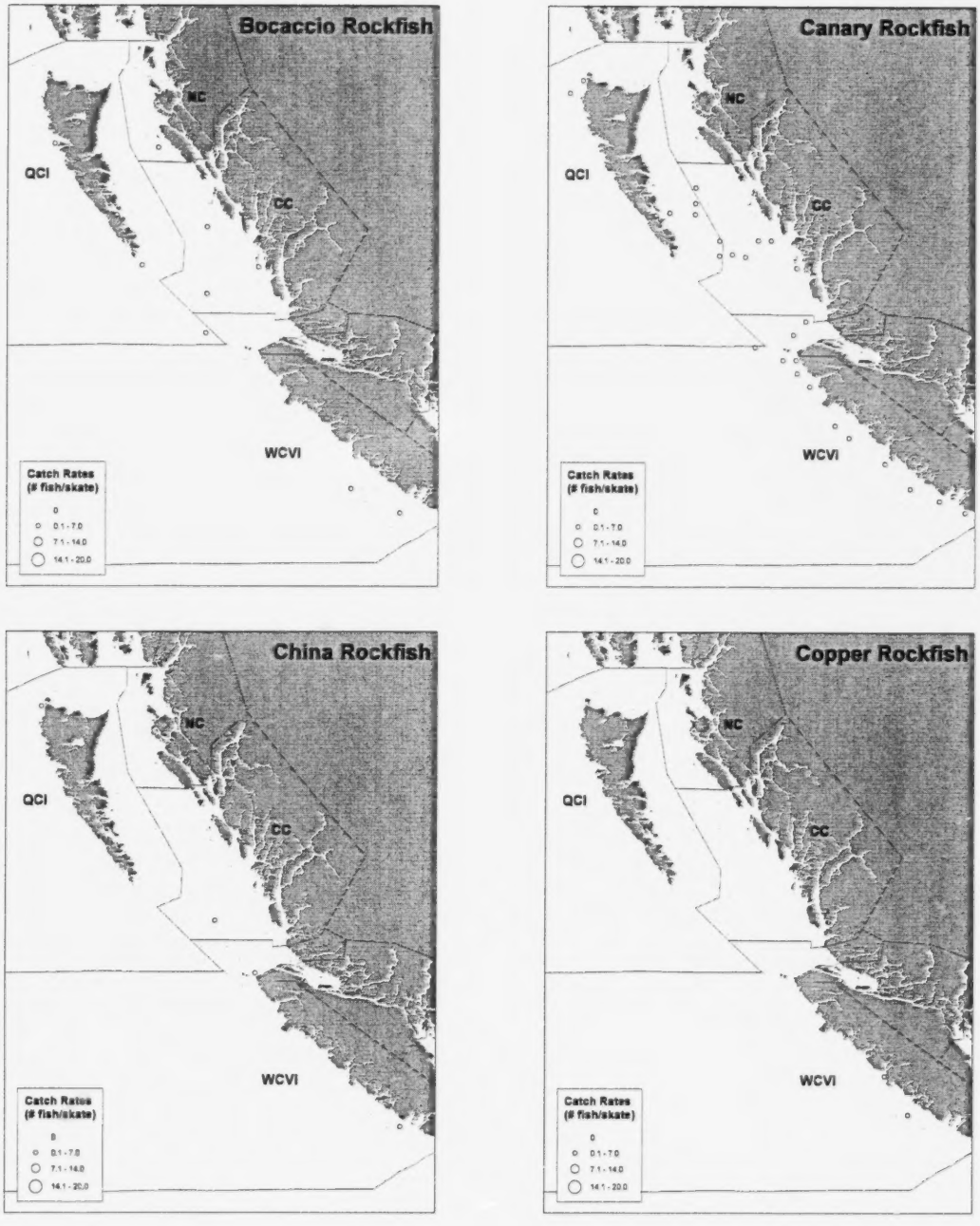

Figure 5. Catch rate in numbers of fish per skate displayed by station surveyed. Common names are shown in the upper right corner of the panel.

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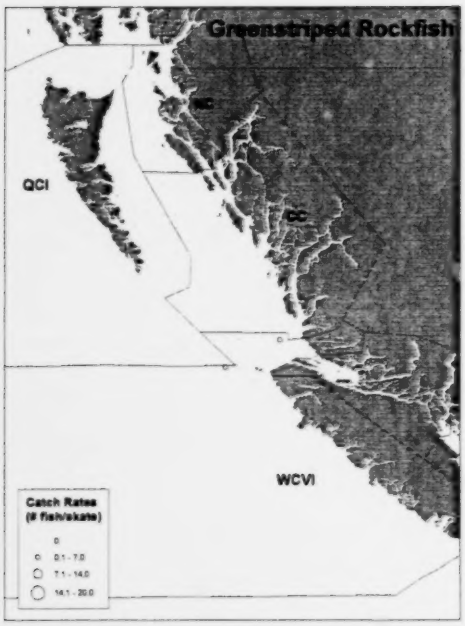
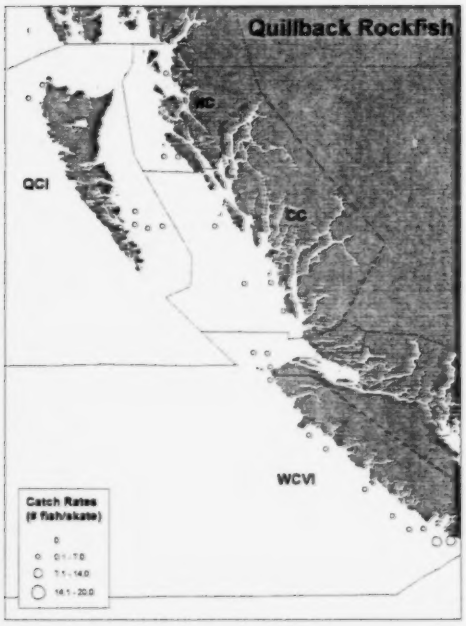
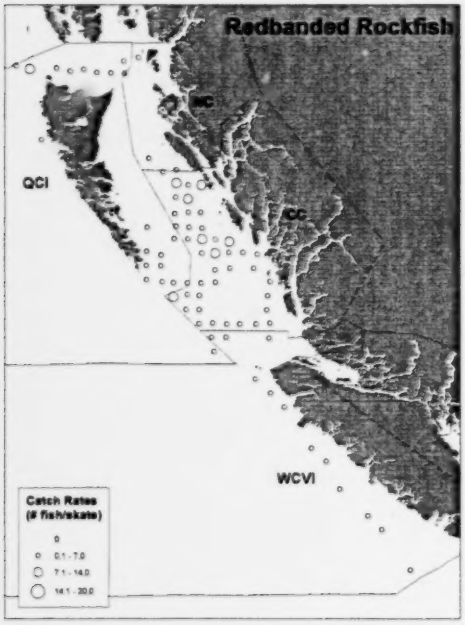






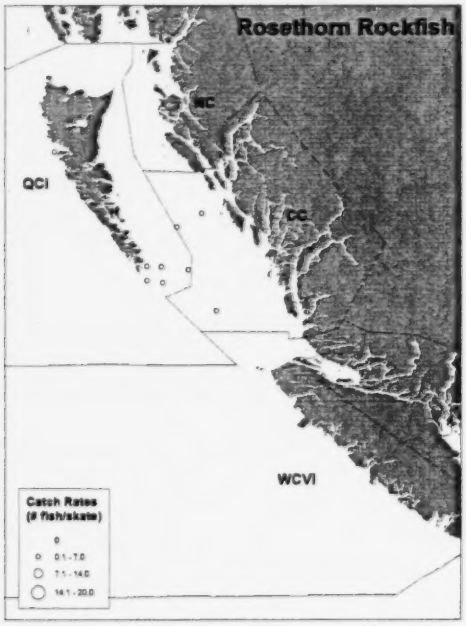
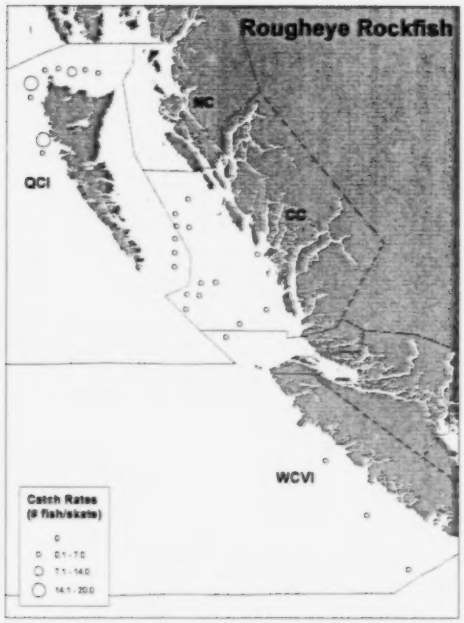
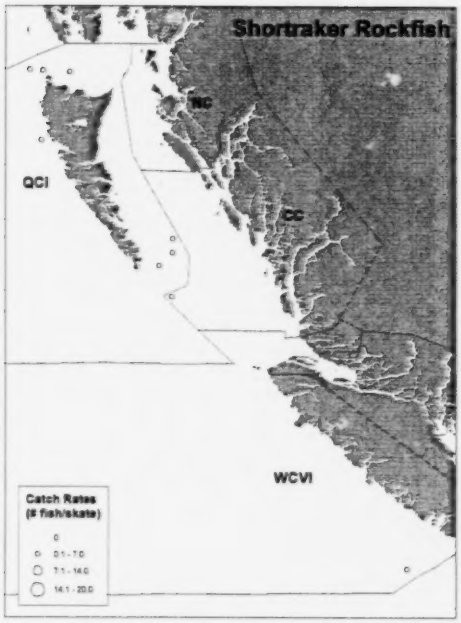
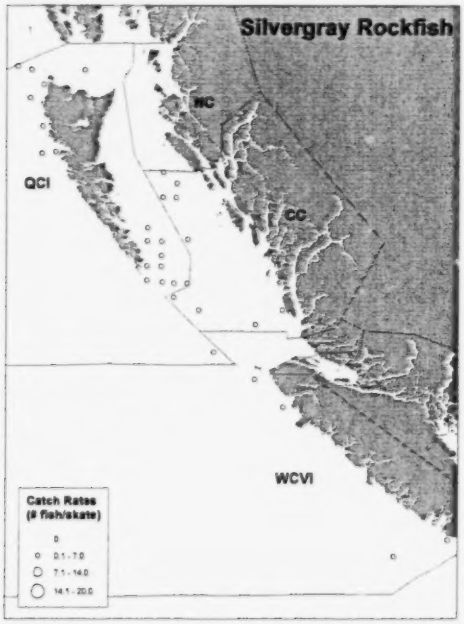


Figure 5. continued







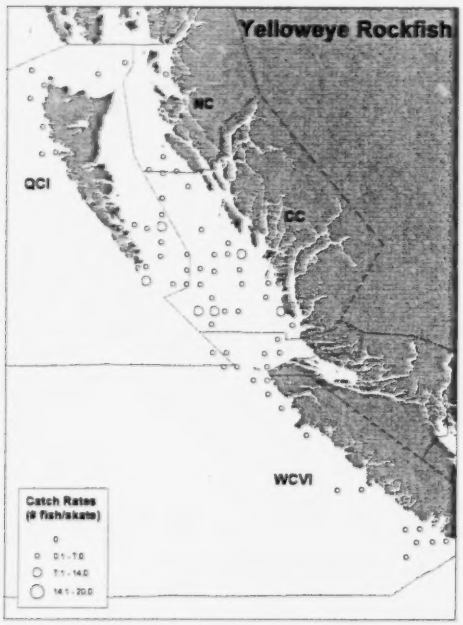


Figure 5. continued

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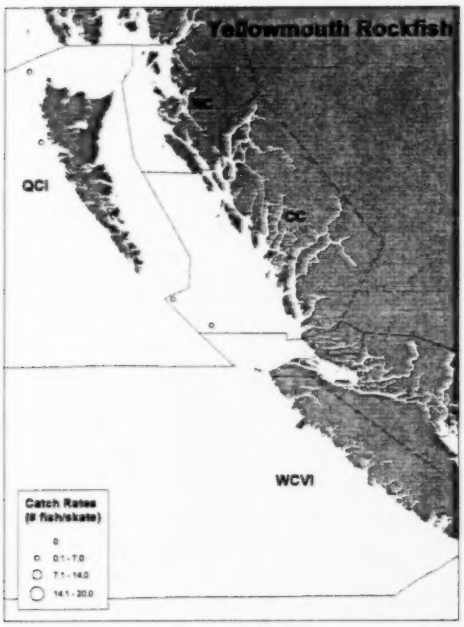


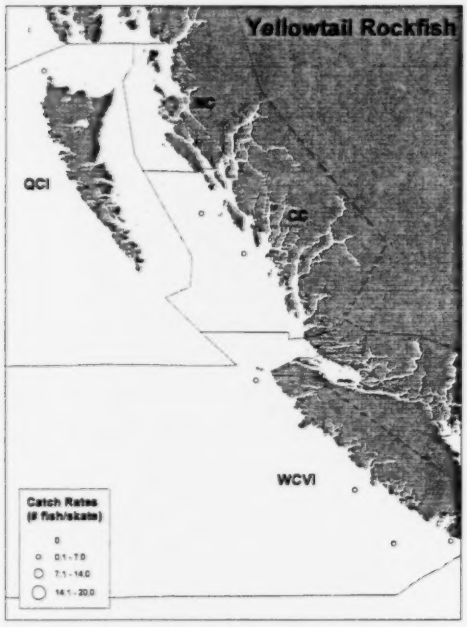


Figure 5. continued.

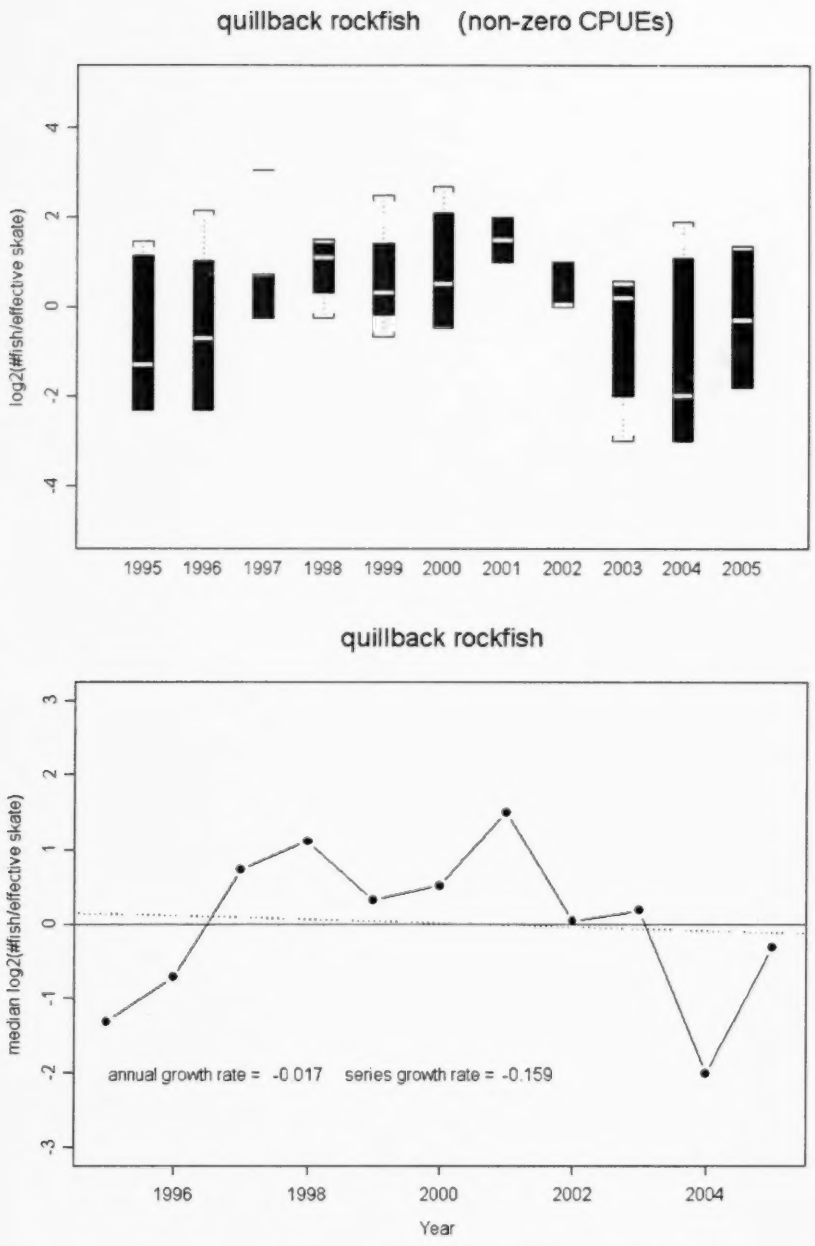


Figure 7. Relative abundance index $\log_2$ (number of fish / effective skate) for non-zero quillback rockfish catches from the IPHC SSA survey for the years 1995 to 2005. Boxplots summarize annual non-zero data with a box for the 1st and 3rd quartiles of the data, bar for the median and whiskers for the extremes of the data. The regression line of the median non-zero catch rates is shown as a dotted line. Annual growth rate and the growth rate over the series of surveys are shown.

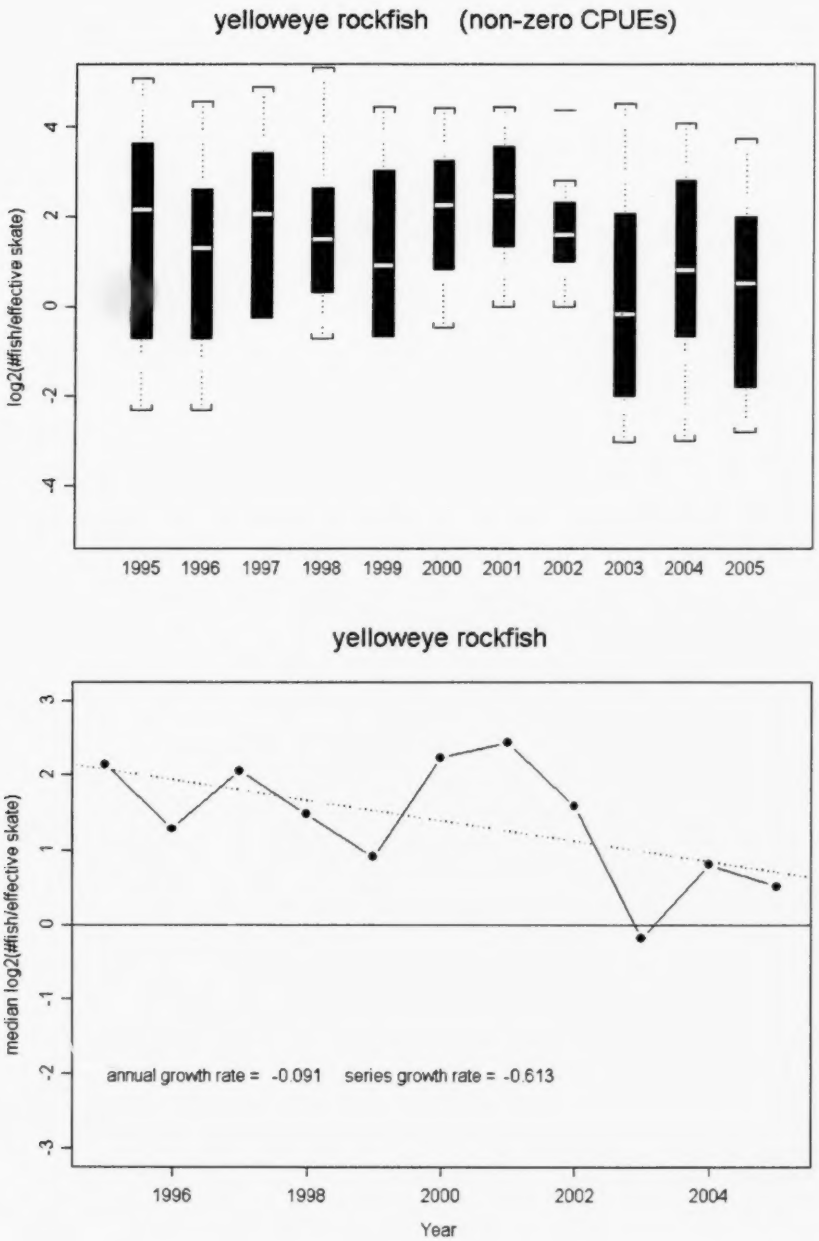


Figure 6. Relative abundance index $\log_2$ (number of fish / effective skate) for non-zero yelloweye rockfish catches from the IPHC SSA survey for the years 1995 to 2005. Boxplots summarize annual non-zero data with a box for the 1st and 3rd quartiles of the data, bar for the median and whiskers for the extremes of the data. The regression line of the median non-zero catch rates is shown as a dotted line. Annual growth rate and the growth rate over the series of surveys are shown.

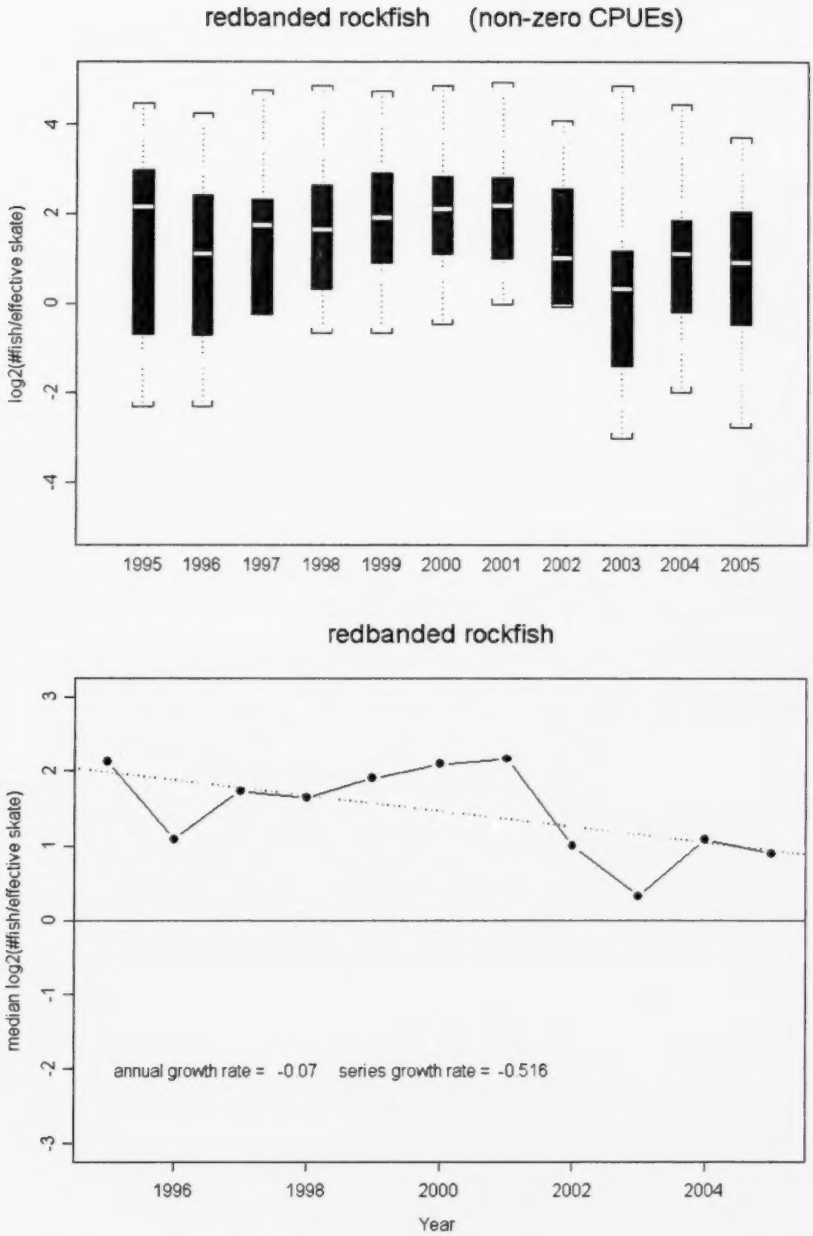


Figure 8. Relative abundance index $\log_2$ (number of fish / effective skate) for non-zero redbanded rockfish catches from the IPHC SSA survey for the years 1995 to 2005. Boxplots summarize annual non-zero data with a box for the 1st and 3rd quartiles of the data, bar for the median and whiskers for the extremes of the data. The regression line of the median non-zero catch rates is shown as a dotted line. Annual growth rate and the growth rate over the series of surveys are shown.

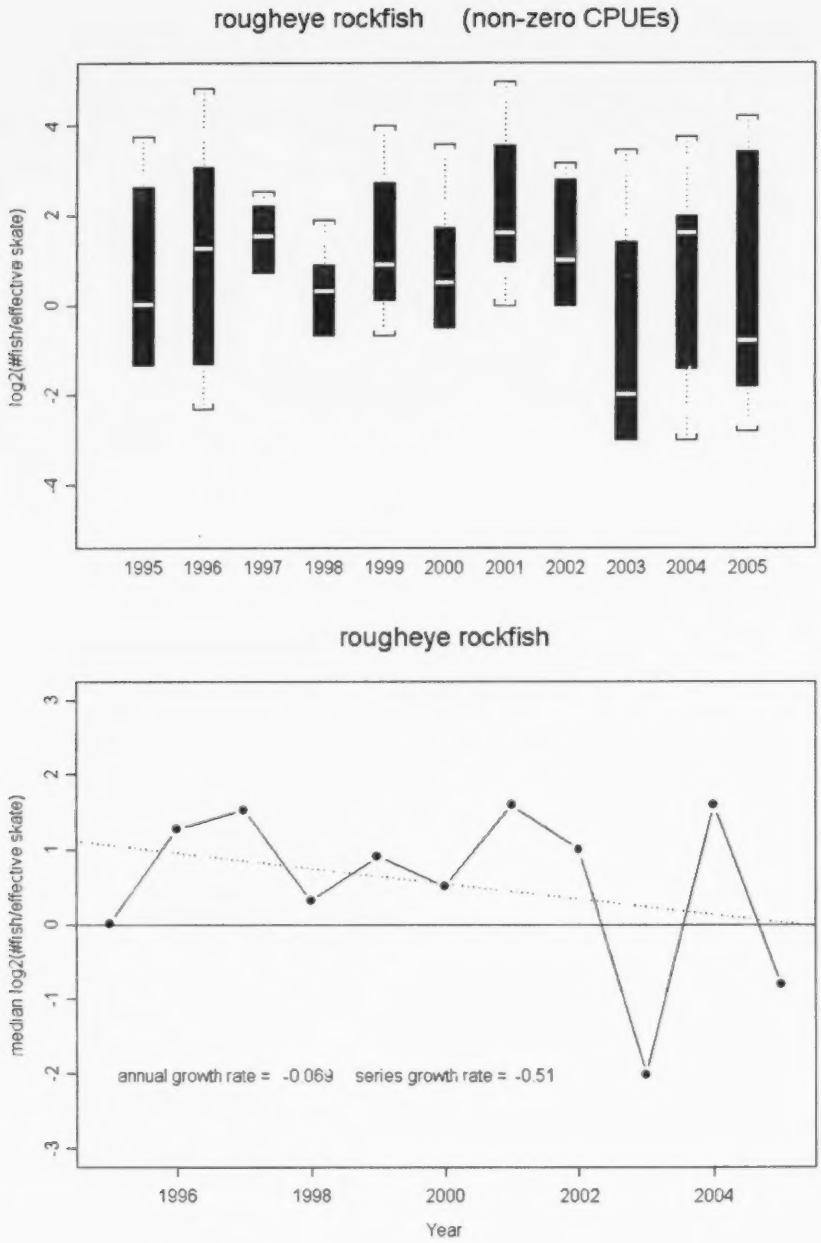


Figure 9. Relative abundance index $\log_2$ (number of fish / effective skate) for non-zero rougheye rockfish catches from the IPHC SSA survey for the years 1995 to 2005. Boxplots summarize annual non-zero data with a box for the 1st and 3rd quartiles of the data, bar for the median and whiskers for the extremes of the data. The regression line of the median non-zero catch rates is shown as a dotted line. Annual growth rate and the growth rate over the series of surveys are shown.

Appendix A. 2005 IPHC Survey Sampling Protocol

Priority work for the observer is to determine the hook-by-hook catch. The biological sampling of rockfish should be done opportunistically and in no way should impinge upon the IPHC setline survey objectives.

Data Reporting and Delivery

Vessels involved in the survey will land fish every 5-6 days. When the vessels lands, the Catch by Hook Data, and the T23 data must be faxed to AMR if the vessel lands in port with an AMR office. The original data forms and otoliths should be kept on board the vessel until the vessel has completed the survey. At the end of the survey, all original data forms and otoliths will be delivered to AMR in Victoria. A trip report must be completed for each vessel.

Recording Catch By Hook Header Information

The vessel will set and haul up to 4 strings per day depending on weather and running times between stations. It is expected that the average vessel will haul 3 strings per day. Obtain all bridge log information on the Catch by Hook data sheet from the IPHC set form. Positional information (lat and long) and depth should be recorded for the start of the set and can be obtained from the IPHC set form. This information only needs to be recorded on skate 1 and skate 7 on the Catch By Hook data form. This information can be completed for all strings after the gear has been set in the morning and prior to hauling of the gear. Record the Hook 001 position (start or end) for the string and the time for first flag out of water when the hauling begins. The vessel crew will identify which end of the string is to be hauled first.

Hook-by-Hook Catch Recording

Identify to species (for fish and invertebrates) and record the hook-by-hook catch in the order in which the hooks are retrieved. An abbreviation list should be maintained for all species and include codes for empty hooks, bait, skin etc. Also note the start/end of each skate so that any missed hooks will be confined to a skate. There will be 7 skates of approximately100 hooks per set for a total of 700 hooks per set. The end of each skate will be indicated by an anchor/shackle and will be verbally confirmed by either the vessel crew or IPHC staff.

- Empty hooks, missing /bent hooks and hooks with bait or skin must also be recorded. (see abbreviations list)
- Fish that are lost at the rail should also be recorded as such. (see abbreviations list)
- When two fish are caught on the same hook, both fish should be recorded. The predator species should be recorded first, followed by a slash (/) then the prey species.
- At the end of each set (or end of the day), compare the catch data for rockfish to the T23 (otolith) data collected. Record comments on the T23 form as to why any discrepancies exist between the number of fish caught and the number sampled.

Biological Sampling

During the survey only rockfish will be sampled. Sampling should commence after all gear is on board the vessel and the vessel is transiting to the next station.

There may be times when you will not be able to complete all the required rockfish sampling before it is time to haul the next string. If this situation is encountered, the fish should be placed in baskets or buckets and stored out of the way, (and separate from fish on the next string) until there is sufficient time to complete the sampling. There will usually be time to complete the sampling at the end of the day. If the situation arises where there are fish from several sets that could not be sampled, the fish can be zap strapped through the operculum and iced in the hold. A different colour strap should be used in order to differentiate fish from different sets and the information should be recorded on the Dockside Sampling Inventory Form. These fish can then be sampled at the dock when the vessel lands.

- Dock sampling is logistically difficult and negatively affects the quality of the fish and should be avoided if at all possible. If fish have to be sampled at the dock, AMR must be contacted prior to landing in order to arrange sampling facilities and personnel.

- IPHC staff will assist in recording data on the T22's and T23's and vessel crew will assist with dressing rockfish. It may be best to have the crew pre-dress rockfish as the fish come on board (remove the gills and slit the bellies, leaving gonads in tact). This will speed up the sampling and limit the time required from IPHC staff and vessel crew. (See Collection of Length Conversion Data) Please consult with the crew of the vessel and the IPHC staff to determine when to conduct your samples (before or after the fish are
- dressed).

- During periods of heavy by-catch, there may not be enough time to properly clean otoliths as they are extracted. Otoliths can simply be extracted and stored in a tray until they can be properly cleaned later. Record each sample on the appropriate B01 form after each set. Mornings (while the gear is being set) are a good time to catalogue T23's and clean otolith samples collected the previous day. Remove and clean all otoliths from the collection tray, and place them in the correct cell of the clean delivery tray for that species. (use one label per tray) Check each sample against the B01 form for that species, to ensure there is no overlap in fish numbers.

- Otoliths will be stored in separate trays for each species and otolith numbers for each species will run consecutively. Use the following numbering system:

Species	Otolith # Range
• Yelloweye	• 0001-1000
• Redbanded	• 1001-2000
• Quillback	• 2001-2500
• Copper	• 2501-3000
• China	• 3001-3500
• Tiger	• 3501-4000
• Black	• 4001-4500
• Other Rockfish	• 4501-6000*

*use blocks of 100 per species

- DFO has requested that we collect gonad samples from each of the rockfish maturity states encountered. The gonads should be carefully removed and frozen in a Ziploc bag with a label stating the species and maturity state.

Sampling Protocols

Rockfish

All rockfish will be retained from each set. Sample up to 50 rockfish per set for Length/Sex/Maturity/Otoliths (LSMO). The priority species is yelloweye rockfish followed by redbanded, quillback, copper, china, tiger and black rockfish. If there are more than 50 yelloweye rockfish per set then randomly sub-sample 50 pieces for LSMO. If there is less than 50 yelloweye rockfish then sample them all and make up the rest of the 50 pieces with other rockfish i.e. redbanded, quillback, copper, china, tiger and black rockfish for a total of 50 rockfish sampled per set. Other rockfish species can also be sampled if time permits.

Rockfish Maturities

There is new clarification of rockfish cycles on the rockfish maturity sheet for 2005:
Rockfish cycle back to maturity stage #3, after the resting stage #7, for example: 1-2-3-4-5-6-7-3-4...

- Females - look for the presence of eyed larvae (small black dots on ovaries) to distinguish mature females (stage 3) from maturing females (stage 2) which do not have eyed larvae present.
- Males - look for the presence of residual milt in the seminal vesicle to distinguish developing testes (stage 3) from maturing testes (stage 2), which will not have residual milt present.

Documenting Collection Methods and Utilizations on T23 Data Forms

The following guidelines should be used for recording collection methods and utilizations for rockfish:

- All rockfish caught are sampled and retained:
  Collection = 01 (whole haul) and Util =1

- All rockfish caught are sampled but some are discarded (poor quality):
  Collection = 01 (whole haul) and Util = blank

- Sub-sample of rockfish caught are used for sampling:
  Collection = 03 (random ungraded) and Util = blank

- Sub-sample of rockfish are used for sampling but all rockfish are retained:
  Collection = 02 (random graded) and Util = 1

Collection of Length Conversion Data

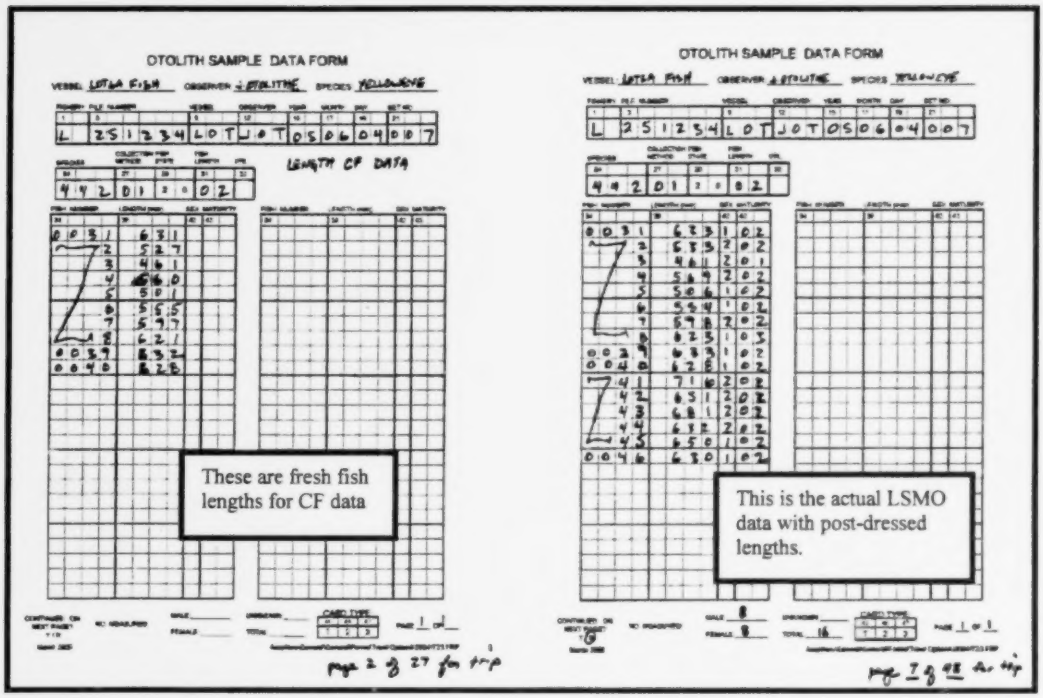
DFO has requested that we collect some length conversion (CF) data for each species of rockfish sampled after vessel crew has dressed them during the survey. Procedures for this sampling follow:

- **Step 1)** Collect up to 50 individuals of each species for sampling. These should be the same fish that you are sampling for otoliths during the survey. In order to collect 50 fish of each species you may have to do this sampling for several sets (samples). As the number of fish encountered for some species (i.e. Quillback) will be quite low, you should sample all individuals encountered. For species that
- are more numerous (i.e. yelloweye), spread the collection of this data out – do the first 10 fish of each sample until you have collected the data for 50 fish. This will spread out the time required for this sampling into manageable proportions.

- **Step 2)** Each fish sampled for length CF data should be measured for fork length to the nearest millimetre before the crew has dressed the fish. Pre dressed fish lengths can be recorded onto a separate t23 data form with the fish number (otolith number) but no sex or maturity data. The fish number should match the LSMO data collected for the fish during actual (post dressed) otolith sampling. On these data sheets record "Length CF Data" under the header information for the form, as it will be a duplicate of the actual otolith data recorded during sampling.

- **Step 3)** Allow the crew to gill (dress) the fish in the same manner to what has been done for otolith sampled fish to date.

- **Step 4)** Proceed with normal (post dressed) otolith sampling procedures ensuring that the post dressed length data can be matched to the pre dressed length information using the "otolith" fish number assigned to each individual.


OTOLITH SAMPLE DATA FORM
These are fresh fish lengths for CF data
OTOLITH SAMPLE DATA FORM
This is the actual LSMO data with post-dressed lengths.

Documenting Gear Problems on Catch by Hook Data Form

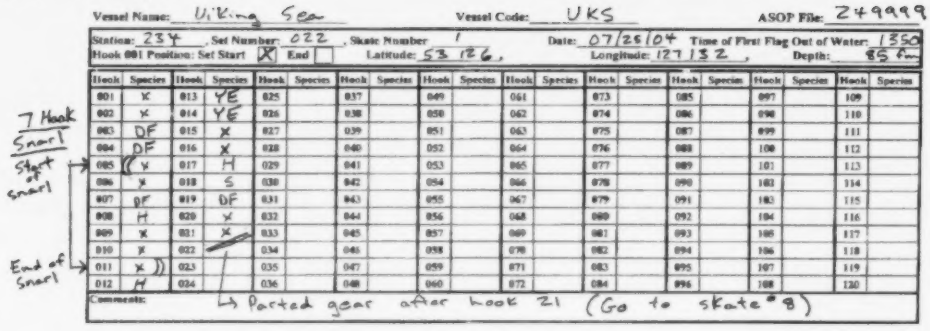
Gear snarl

The most frequent problem encounter during longline operations is the snarling of the line and the hooks. When the gear becomes snarled the recording of hooks and catch in sequential order becomes difficult at best. There are two basic scenarios.

- The crew will bring the entire snarl aboard, remove the hooks and untangle the snarl. Then depending on the size of the snarl, they will throw the line outboard again and resume haul back. In this scenario you will be able to determine the total number of hooks involved because all the hooks involved will have been removed. However, you may not know the order of the hooks and the catch. In this situation record all hooks and catch in the boxes provided (do your best at estimating the sequential order) and then separate those hooks involved in the snarl with a set of brackets as illustrated in the example below. The brackets will inform the data transcribers that these items were caught, but the order is unclear because of a gear snarl.

- The crew my bring the entire snarl aboard, but may not untangle the hooks and line at that time. In this particular situation you should record in the appropriate boxes all items caught, estimate the number of hooks, and then place brackets around those items. You will need to ask the crew to inform you about the total number of hook involved after they have untangled the snarl and you will need to note that in the comment section.

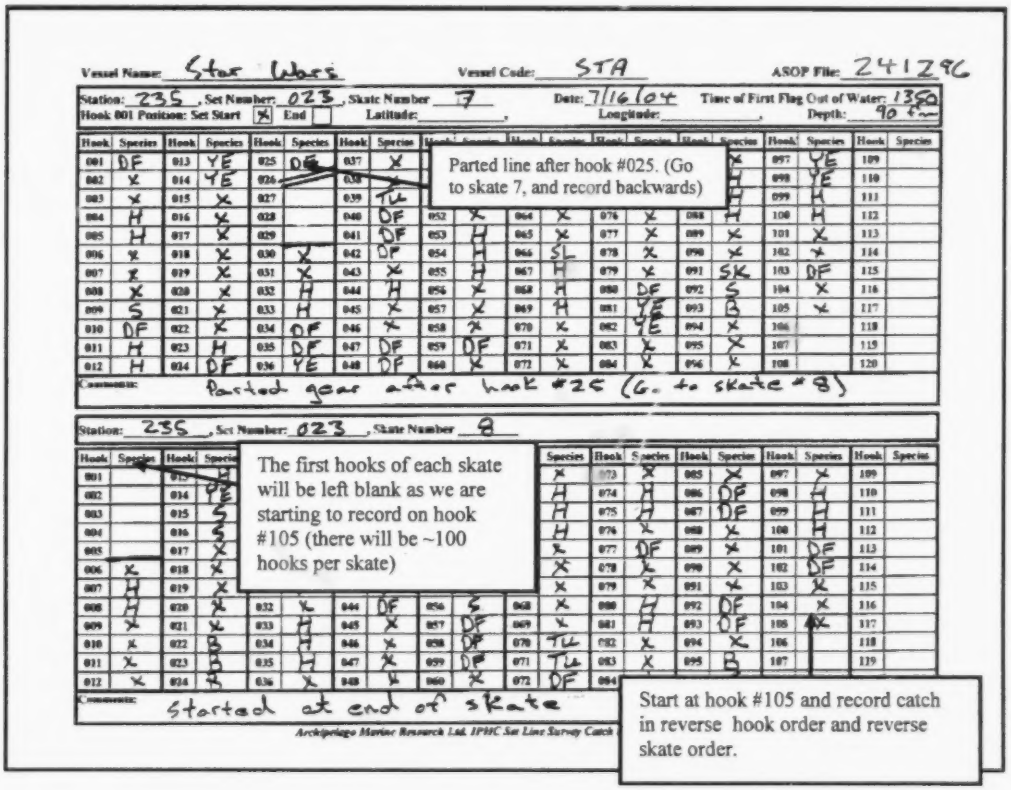
Hook snarl example:


Vessel Name: Viking Sea
Vessel Code: UKS
ASOP File: 249999
Station: 234, Set Number: 022, Skate Number: 1
Date: 07/25/04 Time of First Flag Out of Water: 1350
Hook 001 Position: Set Start X End
Latitude: 53 12 6, Longitude: 127 13 2, Depth: 85 fm
7 Hook Snarl
Start of snarl
End of snarl
Comments: Parted gear after hook 21 (Go to skate # 8)

Parting of the gear

When the longline parts the vessel must travel to the other end of the string (skate # 7) in order to retrieve the gear. At the time when the longline parts you should place a double backslash after the last retrieved hook and then record what happened in the comment section provided. When the haul back resumes, you will need to record hook status in reverse order starting with hook #105 for skate #7. You will record hook status in reverse order for each skate for the remainder of the string. Start on hook #105 for each skate and record backwards to allow sufficient space on the catch by hook form for all hooks on each skate.

Gear Part Example


Vessel Name: Star Wars
Vessel Code: STA
ASOP File: 241296
Station: 235, Set Number: 023, Skate Number: 7
Date: 7/16/04 Time of First Flag Out of Water: 1350
Hook 001 Position: Set Start X End
Depth: 90 fm
Parted line after hook #025. (Go to skate 7, and record backwards)
Comments: Parted gear after hook #25 (G. to skate # 8)
Station: 235, Set Number: 023, Skate Number: 8
The first hooks of each skate will be left blank as we are starting to record on hook #105 (there will be ~100 hooks per skate)
Comments: Started at end of skate
Start at hook #105 and record catch in reverse hook order and reverse skate order.

Appendix B. Summary of set specifications by vessel, including set number, date, location (start and end latitudes and longitudes in degrees, decimal minutes), depths (minimum, maximum and average in metres) and times (start deployment, start retrieval and end retrieval).

Star Wars II

Set	Date	Start Latitude	Start Longitude	End Latitude	End Longitude	Min Depth (m)	Max Depth (m)	Average Depth (m)	Begin Deploy Time	Begin Retrieve Time	End Retrieve Time
1	10-Jul-05	53 34.85	132 81.67	53 31.32	130 86.68	113	148	130	5:05 AM	11:45 AM	1:22 PM
2	10-Jul-05	53 31.87	133 10.00	35.20+E1	130 86.68	210	312	261	6:35 AM	2:30 PM	4:22 PM
3	10-Jul-05	53 48.40	133 10.00	53 51.85	130 86.58	250	457	353	7:43 AM	5:15 PM	7:12 PM
4	10-Jul-05	53 65.13	133 11.67	53 68.52	131 15.00	138	151	144	8:52 AM	8:18 PM	10:17 PM
5	11-Jul-05	53 98.40	133 41.67	54 01.98	131 41.67	73	84	78	4:58 AM	11:39 AM	1:23 PM
6	11-Jul-05	54 15.08	133 43.33	54 18.55	132 01.67	389	393	391	6:08 AM	2:28 PM	4:18 PM
7	11-Jul-05	54 31.75	133 43.33	54 35.17	133 11.67	193	230	211	7:23 AM	5:09 PM	7:21 PM
8	11-Jul-05	54 34.97	133 71.67	54 31.62	132 58.33	235	246	240	8:50 AM	8:43 PM	10:41 PM
9	12-Jul-05	54 15.12	133 15.00	54 18.50	131 71.67	49	85	67	5:00 AM	10:35 AM	12:12 PM
10	12-Jul-05	54 31.77	133 15.00	54 35.10	133 10.00	455	459	457	6:20 AM	1:13 PM	3:38 PM
11	12-Jul-05	54 34.83	132 86.67	54 31.57	132 56.67	380	391	385	8:04 AM	4:45 PM	6:56 PM
12	13-Jul-05	54 15.27	132 56.65	54 18.53	132 00.02	76	96	86	4:58 AM	10:15 AM	11:53 AM
13	13-Jul-05	54 31.75	132 58.33	54 35.10	133 10.00	257	276	266	6:05 AM	12:43 PM	2:40 PM
14	13-Jul-05	54 34.98	132 30.00	54 31.33	132 28.33	210	246	228	7:37 AM	3:50 PM	5:34 PM
15	13-Jul-05	54 18.33	132 28.33	54 14.88	131 43.33	73	106	89	8:48 AM	6:26 PM	7:49 PM
16	15-Jul-05	54 15.13	132 00.00	54 18.52	131 73.33	43	91	67	5:02 AM	1:48 PM	3:15 PM
17	15-Jul-05	54 31.73	132 01.67	54 35.38	133 14.98	235	265	250	6:17 AM	4:20 PM	5:59 PM
18	15-Jul-05	54 31.75	131 71.67	54 35.20	133 15.00	182	210	196	9:19 AM	7:03 PM	8:33 PM
19	15-Jul-05	54 48.40	131 73.35	54 51.67	133 71.67	332	374	353	10:40 AM	9:50 PM	11:49 PM
20	16-Jul-05	54 31.72	131 43.33	54 35.07	132 86.67	148	188	168	5:02 AM	10:20 AM	11:53 AM
21	16-Jul-05	54 47.23	131 45.95	54 47.27	133 41.67	118	181	149	6:22 AM	12:46 PM	2:26 PM
22	16-Jul-05	54 51.67	131 15.02	54 48.27	133 43.33	133	148	140	7:45 AM	3:40 PM	5:22 PM
23	16-Jul-05	54 34.95	131 15.02	54 31.40	132 30.00	60	71	65	8:57 AM	6:18 PM	7:52 PM
24	19-Jul-05	53 15.05	130 58.33	53 18.32	130 86.67	181	193	187	5:00 AM	11:01 AM	12:36 PM
25	19-Jul-05	53 34.92	130 58.33	53 31.30	130 86.67	62	111	86	5:38 AM	1:30 PM	3:02 PM
26	19-Jul-05	53 34.90	130 29.98	53 31.68	130 86.65	87	117	102	8:14 AM	4:05 PM	5:50 PM
27	19-Jul-05	53 18.28	130 30.00	53 14.95	130 86.67	102	217	159	9:30 AM	6:57 PM	8:40 PM
28	20-Jul-05	53 01.62	130 30.00	52 97.77	130 58.43	204	208	206	5:01 AM	11:49 AM	1:23 PM
29	20-Jul-05	53 01.43	130 58.32	52 97.68	130 58.33	85	95	90	6:38 AM	2:33 PM	3:56 PM
30	20-Jul-05	52 85.08	130 58.33	52 81.67	130 58.33	106	117	111	7:43 AM	4:48 PM	6:15 PM
31	20-Jul-05	52 81.77	130 86.67	52 85.37	130 58.33	43	54	48	9:07 AM	7:27 PM	8:59 PM
32	21-Jul-05	52 68.30	130 86.67	52 64.58	130 58.50	89	96	92	5:00 AM	12:00 PM	1:22 PM
33	21-Jul-05	52 68.25	131 13.33	52 64.52	130 58.38	62	80	71	6:34 AM	2:24 PM	3:56 PM
34	21-Jul-05	52 51.63	131 13.32	52 47.98	130 31.78	60	168	114	7:43 AM	5:10 PM	6:56 PM
35	21-Jul-05	52 48.38	131 41.65	52 51.83	130 58.55	78	320	199	9:15 AM	8:06 PM	9:52 PM
36	22-Jul-05	53 18.60	130 86.65	53 14.82	130 86.67	104	109	106	5:00 AM	11:36 AM	1:10 PM
37	22-Jul-05	53 31.48	130 86.68	53 34.83	130 86.67	129	138	133	7:02 AM	2:03 PM	3:38 PM
38	22-Jul-05	53 51.43	130 86.58	53 47.87	130 85 90	89	98	93	9:02 AM	4:46 PM	6:34 PM
39	23-Jul-05	53 68.25	130 58.33	53 64.60	131 13.35	31	43	37	5:07 AM	10:22 AM	11:48 AM
40	23-Jul-05	53 68.12	130 86.67	53 64.40	131 13.32	47	49	48	6:40 AM	12:56 PM	2:24 PM
41	23-Jul-05	53 84.87	130 86.67	53 81.15	131 15.00	76	93	84	8:33 AM	3:13 PM	4:41 PM
42	24-Jul-05	54 51.67	130 58.33	54 48.12	133 43.33	104	138	121	5:00 AM	10:10 AM	11:41 AM
43	24-Jul-05	54 35.08	130 58.33	54 31.77	132 81.67	69	120	94	6:10 AM	12:33 PM	2:07 PM
44	24-Jul-05	54 18.30	130 58.33	54 14.93	131 39.73	82	122	102	7:25 AM	2:58 PM	4:45 PM

Appendix B. continued

Proud Venture

Set	Date	Start Lat	Start Long	End Lat	End Long	Min Depth (m)	Max Depth (m)	Average Depth (m)	Begin Deploy Time	Begin Retrieve Time	End Retrieve Time
2	31-May-05	52 99.97	130 06.10	52 99.97	130 86.62	138	230	184	10:07 AM	3:18 PM	5:10 PM
3	31-May-05	53 00.00	129 78.85	53 00.15	130 86.67	219	239	229	11:23 AM	6:12 PM	8:38 PM
4	02-Jun-05	52 83.35	130 06.07	52 83.33	130 58.33	256	259	257	5:22 AM	10:46 AM	12:50 PM
5	02-Jun-05	52 66.70	130 04.87	52 66.67	130 58.42	265	268	266	7:05 AM	2:11 PM	4:12 PM
6	02-Jun-05	52 66.57	129 80.47	52 66.72	130 58.33	184	208	196	8:20 AM	5:16 PM	7:13 PM
7	03-Jun-05	52 50.02	130 28.88	52 49.95	130 31.72	243	292	267	5:27 AM	10:41 AM	12:55 PM
8	03-Jun-05	52 35.32	130 31.75	52 32.00	130 30.00	338	365	351	6:59 AM	2:53 PM	5:28 PM
9	03-Jun-05	52 31.80	130 58.08	52 35.33	130 31.70	164	173	168	8:40 AM	7:06 PM	9:28 PM
10	04-Jun-05	52 19.05	130 86.70	52 15.42	130 04.92	213	226	219	11:51 AM	5:23 PM	7:29 PM
11	04-Jun-05	52 14.95	130 58.30	52 18.30	130 00.53	192	199	195	2:07 PM	8:52 PM	11:06 PM
12	05-Jun-05	52 34.90	129 76.58	52 31.32	130 00.45	208	213	210	5:08 AM	11:59 AM	1:55 PM
13	05-Jun-05	52 34.93	129 49.97	52 31.52	130 02.32	160	186	173	6:57 AM	3:19 PM	5:10 PM
14	05-Jun-05	52 51.73	129 53.13	52 48.55	130 31.55	85	113	99	9:34 AM	6:59 PM	9:01 PM
15	09-Jun-05	52 48.57	130 03.43	52 51.72	130 31.70	268	276	272	5:28 AM	11:10 AM	1:28 PM
16	09-Jun-05	52 35.10	130 04.92	52 31.62	130 34.30	215	246	230	7:10 AM	3:23 PM	5:15 PM
17	09-Jun-05	52 48.43	129 76.68	52 51.58	130 31.63	170	188	179	9:27 AM	7:24 PM	9:37 PM
18	10-Jun-05	52 18.60	129 23.27	52 15.35	130 05.02	171	179	175	4:59 AM	10:37 AM	12:35 PM
19	10-Jun-05	52 18.55	128 94.98	52 15.22	130 05.10	133	177	155	6:50 AM	2:04 PM	4:22 PM
20	10-Jun-05	52 31.72	129 21.58	52 34.87	130 30.00	142	162	152	8:49 AM	6:33 PM	8:43 PM
21	11-Jun-05	52 17.95	129 50.03	52 14.38	130 03.37	212	215	213	5:07 AM	11:18 AM	1:28 PM
22	11-Jun-05	52 17.95	129 76.57	52 14.35	129 75.78	192	213	202	7:22 AM	2:52 PM	4:34 PM
23	11-Jun-05	52 01.47	129 78.38	51 98.05	129 76.68	111	117	114	8:35 AM	6:05 PM	8:01 PM
24	12-Jun-05	52 01.50	130 58.23	51 98.32	129 77.55	226	303	264	5:04 AM	10:32 AM	12:39 PM
25	12-Jun-05	52 01.55	130 86.72	51 97.87	129 76.68	181	223	202	6:52 AM	2:15 PM	4:23 PM
26	13-Jun-05	52 18.03	130 31.67	52 14.82	130 05.40	391	416	403	6:02 AM	11:56 AM	2:08 PM
27	13-Jun-05	52 18.10	130 04.98	52 14.72	129 99.75	159	170	164	7:45 AM	3:38 PM	7:46 PM
28	13-Jun-05	52 01.23	130 31.58	51 97.90	129 76.83	347	360	353	9:48 AM	7:45 PM	9:51 PM
29	14-Jun-05	51 85.48	130 86.05	51 81.47	129 54.68	171	202	186	5:45 AM	10:50 AM	2:55 PM
30	14-Jun-05	51 82.60	130 54.63	51 85.98	129 50.72	259	279	269	7:51 AM	4:43 PM	7:18 PM
31	17-Jun-05	51 65.30	130 31.80	51 68.63	129 24.05	245	285	265	5:07 AM	10:39 AM	1:15 PM
32	17-Jun-05	51 81.77	130 31.65	51 85.33	129 53.38	212	221	216	6:31 AM	2:22 PM	4:35 PM
33	17-Jun-05	51 68.27	130 05.00	51 64.97	129 23.47	352	356	354	8:53 AM	6:57 PM	9:27 PM
34	18-Jun-05	51 81.88	130 05.10	51 85.42	129 49.00	173	188	180	5:19 AM	11:00 AM	12:46 PM
35	18-Jun-05	51 82.20	129 78.32	51 85.48	129 49.30	221	279	250	7:09 AM	2:12 PM	4:11 PM
36	18-Jun-05	51 98.68	130 05.02	52 02.18	129 75.25	138	142	140	9:12 AM	3:58 AM	6:02 AM
37	18-Jun-05	51 98.40	129 49.98	52 01.55	129 75.92	201	213	207	6:06 PM	11:06 PM	1:05 AM
38	19-Jun-05	52 31.65	130 86.75	52 35.28	130 30.00	140	153	146	10:27 AM	3:30 PM	5:11 PM
39	19-Jun-05	52 48.28	130 86.68	52 51.82	130 54.82	104	111	107	11:41 AM	6:30 PM	8:17 PM
40	19-Jun-05	52 51.40	130 58.35	52 48.02	130 31.65	118	124	121	1:23 PM	9:44 PM	11:40 PM
41	20-Jun-05	52 64.85	130 58.30	52 67.97	130 58.33	142	160	151	5:08 AM	10:22 AM	12:19 PM
42	20-Jun-05	52 65.13	130 31.75	52 68.38	130 58.33	219	226	222	6:44 AM	1:33 PM	3:35 PM
43	20-Jun-05	52 85.35	130 31.47	52 81.82	130 58.35	208	210	209	8:00 AM	4:48 PM	6:49 PM

Appendix B. continued

Pender Isle

Set	Date	Start Lat	Start Long	End Lat	End Long	Min Depth (m)	Max Depth (m)	Average Depth (m)	Begin Deploy Time	Begin Retrieve Time	End Retrieve Time
1	31-May-05	48 66.65	125 09.87	48 66.72	125 90.12	58	71	64	6:18 AM	11:21 AM	1:15 PM
2	31-May-05	48 66.65	125 35.98	48 66.75	125 86.07	60	71	65	7:34 AM	2:25 PM	4:16 PM
3	31-May-05	48 50.18	125 40.60	48 49.90	125 35.57	128	148	138	9:07 AM	5:40 PM	7:19 PM
4	01-Jun-05	48 49.97	125 65.67	48 49.97	125 64.35	95	131	113	5:04 AM	10:36 AM	12:38 PM
5	01-Jun-05	48 33.33	125 60.92	48 33.33	125 14.97	138	140	139	6:40 AM	2:05 PM	4:09 PM
6	01-Jun-05	48 33.33	125 86.17	48 33.33	125 40.48	263	457	360	8:01 AM	5:26 PM	7:46 PM
7	02-Jun-05	48 50.05	125 85.97	48 50.02	125 60.58	102	107	104	5:04 AM	10:07 AM	11:45 AM
8	02-Jun-05	48 50.02	126 11.02	48 50.00	125 65.82	188	226	207	6:27 AM	12:59 PM	3:14 PM
9	02-Jun-05	48 66.67	126 15.78	48 66.67	125 61.23	135	151	143	8:06 AM	4:39 PM	6:41 PM
10	03-Jun-05	48 66.68	125 90.77	48 66.68	125 91.18	69	78	73	4:56 AM	10:38 AM	12:40 PM
11	03-Jun-05	48 66.70	125 65.77	48 66.72	125 91.52	89	140	114	6:15 AM	1:40 PM	3:22 PM
12	03-Jun-05	48 83.35	125 59.18	48 83.33	126 16.02	42	49	45	7:44 AM	4:40 PM	6:44 PM
13	03-Jun-05	48 83.33	125 86.25	48 83.43	126 10.95	54	67	60	9:03 AM	8:02 PM	10:00 PM
14	04-Jun-05	48 83.33	126 11.22	48 83.35	126 10.73	98	117	107	5:00 AM	10:29 AM	12:11 PM
15	04-Jun-05	48 83.33	126 35.95	48 83.33	126 16.47	173	177	175	6:07 AM	1:15 PM	3:13 PM
16	04-Jun-05	49 00.02	126 40.58	49 00.00	126 41.18	131	142	136	7:35 AM	4:38 PM	6:29 PM
17	04-Jun-05	48 99.98	126 15.70	49 00.00	126 40.98	65	76	70	8:47 AM	7:30 PM	9:10 PM
18	05-Jun-05	49 00.00	126 60.98	49 00.02	126 35.63	201	281	241	5:33 AM	10:30 AM	12:40 PM
19	05-Jun-05	49 16.67	126 61.15	49 16.72	126 65.80	122	124	123	7:05 AM	1:55 PM	3:30 PM
20	05-Jun-05	49 16.67	126 86.07	49 16.68	126 66.28	159	192	175	8:16 AM	4:38 PM	6:22 PM
21	08-Jun-05	49 33.37	126 40.88	49 33.40	126 91.13	38	40	39	5:02 AM	9:59 AM	11:53 AM
22	08-Jun-05	49 16.62	126 35.97	49 16.68	126 35.57	80	91	85	6:30 AM	1:10 PM	2:48 PM
23	08-Jun-05	49 33.37	126 65.80	49 33.30	126 60.83	60	85	72	8:28 AM	4:17 PM	5:35 PM
24	09-Jun-05	49 50.03	126 60.97	49 50.02	127 06.85	36	45	40	4:54 AM	11:54 AM	1:36 PM
25	09-Jun-05	49 49.98	126 85.97	49 50.00	126 90.93	76	98	87	5:57 AM	2:32 PM	4:17 PM
26	09-Jun-05	49 33.38	126 86.27	49 33.23	126 66.13	129	146	137	7:33 AM	5:38 PM	7:32 PM
27	09-Jun-05	49 33.35	127 12.50	49 33.32	126 91.07	170	208	189	8:49 AM	8:43 PM	10:40 PM
28	10-Jun-05	49 51.63	127 12.10	49 51.97	127 17.35	126	140	133	5:00 AM	10:04 AM	11:49 AM
29	10-Jun-05	49 66.68	127 12.55	49 66.67	127 42.58	109	117	113	6:28 AM	12:56 PM	2:50 PM
30	10-Jun-05	49 66.67	127 37.48	49 66.65	127 17.68	153	490	321	7:40 AM	3:58 PM	6:03 PM
31	11-Jun-05	49 83.35	127 37.62	49 83.30	127 42.90	76	84	80	5:22 AM	10:22 AM	12:07 PM
32	11-Jun-05	49 83.22	127 64.58	49 83.45	127 69.77	159	224	191	6:48 AM	1:32 PM	3:40 PM
33	11-Jun-05	50 00.02	127 69.15	49 99.98	127 63.83	76	95	85	8:23 AM	5:12 PM	6:45 PM
34	12-Jun-05	50 33.02	128 15.90	50 33.63	127 97.92	149	168	158	5:30 AM	10:30 AM	12:30 PM
35	12-Jun-05	50 50.02	128 42.40	50 49.98	127 89.07	181	193	187	7:21 AM	1:58 PM	4:17 PM
36	15-Jun-05	50 83.10	128 44.12	50 83.52	128 16.30	43	64	53	5:03 AM	10:13 AM	12:07 PM
37	15-Jun-05	50 66.67	128 44.12	50 66.63	127 91.12	76	96	86	6:36 AM	1:34 PM	3:21 PM
38	15-Jun-05	50 66.60	128 70.85	50 66.75	128 20.83	181	199	190	7:54 AM	4:30 PM	6:30 PM
39	16-Jun-05	50 83.37	129 29.25	50 83.37	128 21.65	102	133	117	4:57 AM	9:59 AM	11:53 AM
40	16-Jun-05	50 83.27	129 02.53	50 83.45	128 24.70	80	91	85	6:16 AM	12:58 PM	3:00 PM
41	16-Jun-05	50 99.95	128 97.45	51 00.05	128 46.07	78	87	82	7:42 AM	4:10 PM	5:56 PM
42	17-Jun-05	50 99.50	129 24.22	51 00.52	128 49.45	151	166	158	4:54 AM	10:54 AM	12:47 PM

Pender Isle set specifications continued on next page.

Appendix B. continued

Pender Isle

Set	Date	Start Lat	Start Long	End Lat	End Long	Min Depth (m)	Max Depth (m)	Average Depth (m)	Begin Deploy Time	Begin Retrieve Time	End Retrieve Time
43	17-Jun-05	50 99.88	129 50.80	51 00.13	128 47.78	230	257	243	6:11 AM	1:50 PM	4:26 PM
44	17-Jun-05	51 16.78	129 55.92	51 16.62	128 42.12	283	287	285	7:48 AM	5:48 PM	7:58 PM
45	17-Jun-05	51 16.77	129 28.08	51 16.62	128 40.47	279	288	283	9:12 AM	8:56 PM	11:17 PM
46	18-Jun-05	51 33.12	129 80.85	51 33.87	129 02.82	234	243	238	5:02 AM	10:02 AM	12:10 PM
47	18-Jun-05	51 49.53	130 07.37	51 50.53	129 27.08	257	325	291	6:55 AM	1:52 PM	4:08 PM
48	18-Jun-05	51 49.57	129 80.87	51 50.38	129 21.78	164	175	169	8:13 AM	5:10 PM	7:10 PM
49	19-Jun-05	51 66.25	129 54.03	51 67.05	129 33.45	87	102	94	4:59 AM	10:00 AM	11:46 AM
50	19-Jun-05	51 82.90	129 49.27	51 84.05	129 56.05	243	265	254	6:24 AM	1:00 PM	3:05 PM
51	19-Jun-05	51 66.58	129 80.85	51 66.78	129 22.15	228	290	259	8:31 AM	4:41 PM	6:37 PM
52	20-Jun-05	51 49.80	129 49.08	51 50.38	129 26.17	95	111	103	5:00 AM	10:00 AM	12:05 PM
53	20-Jun-05	51 33.75	129 54.17	51 32.92	128 66.95	193	208	200	6:27 AM	1:21 PM	3:24 PM
54	20-Jun-05	51 33.35	129 27.47	51 33.37	128 99.18	230	239	234	7:36 AM	4:33 PM	6:30 PM
55	26-Jun-05	51 66.70	128 45.98	51 66.57	129 29.40	142	148	145	5:01 AM	10:00 AM	11:55 AM
56	26-Jun-05	51 83.50	128 40.70	51 83.15	129 49.98	67	175	121	6:40 AM	1:17 PM	3:14 PM
57	26-Jun-05	51 83.42	128 67.38	51 83.10	129 50.03	76	129	102	7:52 AM	4:20 PM	6:20 PM
58	27-Jun-05	52 00.05	128 72.55	51 99.93	129 73.37	164	168	166	5:26 AM	10:33 AM	12:18 PM
59	27-Jun-05	52 16.78	128 65.63	52 16.50	130 04.87	192	237	214	7:02 AM	1:47 PM	3:39 PM
60	27-Jun-05	52 00.12	128 99.35	51 99.90	129 78.05	113	149	131	9:01 AM	5:41 PM	7:34 PM
61	28-Jun-05	51 83.05	128 94.12	51 83.52	129 49.88	73	93	83	5:00 AM	10:00 AM	11:45 AM
62	28-Jun-05	51 99.73	129 20.77	52 00.22	129 74.93	177	182	179	6:50 AM	1:27 PM	3:09 PM
63	28-Jun-05	51 83.53	129 25.88	51 83.05	129 54.47	122	124	123	8:24 AM	4:34 PM	6:16 PM
64	29-Jun-05	51 66.57	128 95.58	51 66.80	129 22.18	45	65	55	4:56 AM	10:44 AM	12:20 PM
65	29-Jun-05	51 65.68	129 22.28	51 66.70	12 920.37	56	60	58	6:21 AM	1:23 PM	3:28 PM
66	29-Jun-05	51 50.35	129 27.60	51 49.58	128 94.13	47	51	49	7:53 AM	2:46 PM	6:37 PM
67	29-Jun-05	51 50.03	129 00.92	51 49.95	128 95.62	42	47	44	9:04 AM	7:43 PM	9:21 PM
68	30-Jun-05	51 50.20	128 73.93	51 49.72	128 95.50	45	137	91	4:57 AM	10:38 AM	12:17 PM
69	30-Jun-05	51 49.97	128 47.58	51 50.07	128 97.03	184	192	188	6:08 AM	1:40 PM	3:42 PM
70	30-Jun-05	51 33.57	128 42.50	51 33.18	128 68.42	144	155	149	7:39 AM	5:09 PM	7:01 PM
71	30-Jun-05	51 33.35	128 69.03	51 33.28	128 70.52	204	210	207	8:57 AM	8:10 PM	10:10 PM
72	01-Jul-05	51 33.20	129 00.93	51 33.48	128 95.12	241	250	245	4:59 AM	10:13 AM	12:15 PM
73	01-Jul-05	51 16.63	129 02.67	51 16.72	128 72.87	129	138	133	6:45 AM	1:33 PM	3:40 PM
74	01-Jul-05	51 16.67	128 75.82	51 16.72	128 70.78	96	117	106	8:04 AM	4:46 PM	6:22 PM
75	05-Jul-05	50 99.58	128 75.95	51 00.33	128 48.87	62	67	64	5:08 AM	11:04 AM	12:51 PM
76	05-Jul-05	50 99.38	128 49.00	51 00.58	128 49.18	80	100	90	6:44 AM	1:45 PM	3:33 PM
77	05-Jul-05	51 16.32	128 44.10	51 16.97	128 76.05	192	193	192	8:18 AM	4:45 PM	6:48 PM
78	06-Jul-05	51 00.03	127 92.35	51 00.07	128 47.48	111	117	114	4:56 AM	10:49 AM	12:44 PM
79	06-Jul-05	51 00.00	128 19.18	51 00.00	128 17.65	95	104	99	6:09 AM	1:56 PM	3:34 PM
80	06-Jul-05	51 16.50	128 22.68	51 16.82	128 74.05	93	115	104	7:43 AM	4:57 PM	6:46 PM
81	06-Jul-05	51 16.70	127 96.05	51 16.63	128 44.43	113	133	123	9:04 AM	8:05 PM	10:07 PM
82	07-Jul-05	51 49.80	128 16.12	51 50.33	128 97.60	71	89	80	4:30 AM	9:27 AM	11:07 AM
83	07-Jul-05	51 33.33	128 21.02	51 33.30	128 71.05	65	91	78	6:10 AM	12:30 PM	1:58 PM
84	07-Jul-05	51 33.22	127 94.30	51 33.50	129 00.83	122	153	137	7:26 AM	3:04 PM	4:50 PM

Appendix C. Species counts and CPUE (number per effective skate) by common IPHC station and year for redbanded rockfish (RB), yelloweye rockfish (YE), rougheye rockfish (RE), quillback rockfish (QB), silvergray rockfish (SG), canary rockfish (CN), copper rockfish (CP) and bocaccio (BC).

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
1995	10G	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	10GC	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	10L	4.919	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	10LC	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	11E	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	11H	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	11HC	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	11J	4.919	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	12CC	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	12E	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	12H	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	13D	4.768	23.00	4.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	13F	4.718	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	13FC	4.969	0.00	0.00	8.00	1.61	0.00	0.00	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	14A	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	14AC	4.869	47.00	9.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	14C	4.718	39.00	8.27	2.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	14E	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	15C	5.019	1.00	0.20	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	15J	5.019	0.00	0.00	8.00	1.59	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	15JC	5.019	0.00	0.00	41.00	8.17	0.00	0.00	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	15L	4.919	0.00	0.00	102.00	20.74	0.00	0.00	0.00	0.00	4.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00
1995	16A	4.919	0.00	0.00	3.00	0.61	0.00	0.00	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	16AC	4.919	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	16H	5.019	0.00	0.00	0.00	0.00	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	17C	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	18G	4.969	0.00	0.00	169.00	34.01	0.00	0.00	11.00	2.21	3.00	0.60	1.00	0.20	0.00	0.00	0.00	0.00
1995	19IC	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	19K	6.023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	19N	5.119	0.00	0.00	23.00	4.49	0.00	0.00	14.00	2.74	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1995	19P	5.019	0.00	0.00	22.00	4.38	0.00	0.00	12.00	2.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	19PC	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	19R	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	1A	4.969	69.00	13.89	0.00	0.00	31.00	6.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20C	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20CC	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20E	5.069	40.00	7.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20H	5.019	22.00	4.38	0.00	0.00	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20K	4.969	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20KC	4.015	2.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	20M	5.842	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	2C	4.869	0.00	0.00	61.00	12.53	0.00	0.00	1.00	0.21	6.00	1.23	0.00	0.00	0.00	0.00	0.00	0.00
1995	3B	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	3BC	4.969	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	3D	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	3G	4.969	0.00	0.00	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	3J	4.969	18.00	3.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.40	0.00	0.00	0.00	0.00
1995	3JC	4.969	8.00	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	3K	4.969	68.00	13.69	7.00	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	4C	4.969	0.00	0.00	22.00	4.43	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	4F	5.069	10.00	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	4FC	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	4H	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	4K	5.069	6.00	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	5CC	4.969	14.00	2.82	0.00	0.00	5.00	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	5E	5.019	52.00	10.36	0.00	0.00	4.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	5H	4.969	3.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	5KC	5.019	28.00	5.58	26.00	5.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	6B	4.919	18.00	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	6E	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	6F	5.019	0.00	0.00	3.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7C	5.019	1.00	0.20	1.00	0.20	0.00	0.00	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1995	7F	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7FC	5.019	23.00	4.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7H	5.019	22.00	4.38	0.00	0.00	6.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7K	4.919	39.00	7.93	83.00	16.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7N	4.969	26.00	5.23	0.00	0.00	67.00	13.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	7NC	4.869	3.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
1995	8AC	5.019	2.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	8C	5.069	30.00	5.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	8F	5.019	30.00	5.98	25.00	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	8I	5.019	0.00	0.00	131.00	26.10	0.00	0.00	0.00	0.00	6.00	1.20	3.00	0.60	0.00	0.00	0.00	0.00
1995	8IC	4.969	0.00	0.00	88.00	17.71	0.00	0.00	0.00	0.00	5.00	1.01	0.00	0.00	0.00	0.00	0.00	0.00
1995	8K	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	9E	5.019	16.00	3.19	18.00	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	9G	4.919	109.00	22.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	9J	4.869	0.00	0.00	55.00	11.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	9M	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	9O	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10211	4.939	4.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10212	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10213	4.939	0.00	0.00	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10214	4.939	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10215	4.939	39.00	7.90	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10216	4.939	22.00	4.45	14.00	2.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10218	4.939	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10220	4.939	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10221	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10222	4.939	41.00	8.30	30.00	6.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.20
1996	10223	4.939	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10224	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00
1996	10225	4.939	13.00	2.63	0.00	0.00	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10226	4.939	0.00	0.00	78.00	15.79	0.00	0.00	0.00	0.00	0.00	0.00	6.00	1.22	0.00	0.00	0.00	0.00
1996	10227	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10228	4.999	0.00	0.00	50.00	10.00	0.00	0.00	0.00	0.00	7.00	1.40	1.00	0.20	0.00	0.00	0.00	0.00
1996	10229	4.999	31.00	6.20	75.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10230	4.818	18.00	3.74	0.00	0.00	15.00	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10232	4.939	2.00	0.41	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10233	4.939	6.00	1.22	9.00	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10234	4.939	29.00	5.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	10235	4.939	35.00	7.09	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00
1996	10236	4.939	0.00	0.00	26.00	5.26	0.00	0.00	0.00	0.00	1.00	0.20	1.00	0.20	0.00	0.00	0.00	0.00
1996	11211	4.818	1.00	0.21	0.00	0.00	1.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11212	4.818	7.00	1.45	2.00	0.42	9.00	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11213	4.015	77.00	19.18	11.00	2.74	20.00	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.25
1996	11215	4.939	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.41	0.00	0.00	0.00	0.00
1996	11216	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00
1996	11217	4.939	13.00	2.63	29.00	5.87	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.41	0.00	0.00	0.00	0.00
1996	11218	4.939	10.00	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11219	4.939	25.00	5.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11221	4.939	19.00	3.85	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1996	11222	4.939	46.00	9.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11223	4.939	73.00	14.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11224	4.939	0.00	0.00	14.00	2.84	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11225	4.939	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00
1996	11226	4.939	34.00	6.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11227	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11231	4.939	0.00	0.00	55.00	11.14	0.00	0.00	5.00	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11232	4.939	28.00	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11233	4.939	8.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	11234	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12112	4.939	22.00	4.45	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12113	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12114	4.939	0.00	0.00	7.00	1.42	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12120	4.939	0.00	0.00	12.00	2.43	0.00	0.00	22.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12122	4.939	0.00	0.00	5.00	1.01	0.00	0.00	10.00	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12123	4.939	18.00	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	12128	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13011	4.939	22.00	4.45	3.00	0.61	42.00	8.50	0.00	0.00	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00
1996	13012	4.939	3.00	0.61	65.00	13.16	0.00	0.00	0.00	0.00	7.00	1.42	0.00	0.00	0.00	0.00	6.00	1.22
1996	13013	4.939	0.00	0.00	10.00	2.03	0.00	0.00	1.00	0.20	1.00	0.20	0.00	0.00	0.00	0.00	1.00	0.20
1996	13014	4.939	1.00	0.20	117.00	23.69	0.00	0.00	0.00	0.00	7.00	1.42	0.00	0.00	0.00	0.00	1.00	0.20
1996	13015	4.939	0.00	0.00	61.00	12.35	0.00	0.00	12.00	2.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13019	4.939	0.00	0.00	28.00	5.67	0.00	0.00	13.00	2.63	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00
1996	13111	4.939	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13112	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13113	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13115	5.019	2.00	0.40	0.00	0.00	143.0	28.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13211	4.939	46.00	9.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13212	4.939	4.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00
1996	13214	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
1996	13215	4.939	9.00	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13216	4.939	6.00	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13217	4.939	0.00	0.00	3.00	0.61	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.20
1996	13314	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13315	4.939	20.00	4.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	13316	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	14211	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9012	4.939	0.00	0.00	46.00	9.31	0.00	0.00	6.00	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9014	4.939	19.00	3.85	0.00	0.00	49.00	9.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.20
1996	9015	4.939	9.00	1.82	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9016	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9017	4.939	35.00	7.09	2.00	0.41	0.00	0.00	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
1996	9111	4.939	0.00	0.00	22.00	4.45	0.00	0.00	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9112	4.939	3.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9113	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9114	4.939	0.00	0.00	2.00	0.41	0.00	0.00	1.00	0.20	0.00	0.00	1.00	0.20	0.00	0.00	1.00	0.20
1996	9115	4.939	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9116	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9117	4.939	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9118	4.939	0.00	0.00	12.00	2.43	0.00	0.00	3.00	0.61	0.00	0.00	1.00	0.20	0.00	0.00	0.00	0.00
1996	9119	4.939	2.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9120	4.939	10.00	2.03	0.00	0.00	4.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9122	4.939	9.00	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	9123	4.939	11.00	2.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10211	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10212	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10213	4.999	0.00	0.00	4.18	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10214	4.999	0.00	0.00	33.20	6.64	0.00	0.00	8.30	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10215	4.999	20.75	4.15	149.40	29.89	0.00	0.00	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00
1997	10216	4.999	20.75	4.15	45.65	9.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10217	4.999	29.05	5.81	66.40	13.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10218	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10219	4.999	4.15	0.83	12.45	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10220	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10221	4.999	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10222	4.999	136.95	27.40	37.35	7.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10223	4.999	8.30	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10224	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10225	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10226	4.999	0.00	0.00	37.35	7.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10227	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10228	4.999	0.00	0.00	62.25	12.45	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00
1997	10229	4.999	24.90	4.98	70.55	14.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10230	4.999	12.45	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10231	4.999	0.00	0.00	78.85	15.77	0.00	0.00	41.50	8.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10232	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10233	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10234	4.999	95.45	19.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10235	4.999	53.95	10.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	10236	4.999	0.00	0.00	53.95	10.79	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00
1997	10237	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11211	4.999	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11212	4.999	0.00	0.00	0.00	0.00	8.30	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11213	4.999	136.95	27.40	4.15	0.83	16.60	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11214	4.999	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11215	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11216	4.999	0.00	0.00	16.60	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11217	4.999	4.15	0.83	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11218	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11219	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11221	5.059	8.40	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11222	4.939	16.40	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11223	5.059	34.17	6.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11224	4.999	0.00	0.00	8.23	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11225	5.119	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11226	4.939	0.00	0.00	4.10	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11227	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11231	4.939	0.00	0.00	57.40	11.62	0.00	0.00	0.00	0.00	0.00	0.00	4.10	0.83	0.00	0.00	0.00	0.00
1997	11232	5.059	8.40	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11233	5.059	12.60	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	11234	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	12112	5.240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	12113	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
1997	12114	5.119	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	12120	5.119	0.00	0.00	0.00	0.00	0.00	0.00	4.25	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	12121	5.119	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	12122	5.180	0.00	0.00	0.00	0.00	0.00	0.00	8.60	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	12123	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13011	4.939	0.00	0.00	0.00	0.00	22.99	4.66	0.00	0.00	9.20	1.86	0.00	0.00	0.00	0.00	0.00	0.00
1997	13012	5.059	0.00	0.00	54.60	10.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13013	4.939	0.00	0.00	4.92	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13014	4.939	0.00	0.00	49.20	9.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13015	5.059	0.00	0.00	21.00	4.15	0.00	0.00	8.40	1.66	0.00	0.00	4.20	0.83	0.00	0.00	0.00	0.00
1997	13019	4.999	0.00	0.00	8.30	1.66	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13111	4.999	0.00	0.00	0.00	0.00	12.45	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13112	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13113	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13115	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13212	4.939	4.10	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13213	4.879	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13214	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13215	5.119	17.00	3.32	4.25	0.83	8.50	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13216	5.059	4.20	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13217	4.939	0.00	0.00	4.10	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13314	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13315	4.999	12.45	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13316	5.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	13318	4.879	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	14211	5.119	0.00	0.00	0.00	0.00	29.75	5.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9012	4.999	0.00	0.00	20.75	4.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9014	4.999	24.90	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9015	4.999	16.60	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9016	4.999	12.45	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9017	4.999	74.70	14.94	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9111	4.999	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9112	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9113	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9114	4.999	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9115	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9116	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9117	4.999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9118	4.999	0.00	0.00	8.30	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9119	4.999	16.60	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9120	4.999	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9121	4.999	0.00	0.00	29.05	5.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	9122	4.999	20.75	4.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2044	4.999	0.00	0.00	53.95	10.79	0.00	0.00	4.15	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2048	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2047	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2049	6.665	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2050	6.665	33.20	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2051	6.665	0.00	0.00	24.90	3.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2053	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2054	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2056	6.665	8.30	1.25	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2059	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2060	6.665	16.60	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2062	6.665	20.75	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2064	6.665	24.75	3.71	8.25	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2066	6.665	41.50	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2069	6.665	0.00	0.00	4.02	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2071	6.665	0.00	0.00	49.80	7.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2073	6.665	8.30	1.25	8.30	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2074	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2075	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2077	6.665	8.30	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2079	6.665	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2081	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2082	6.665	8.30	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2083	6.665	70.55	10.59	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2084	6.665	0.00	0.00	16.60	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2085	6.665	53.95	8.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2090	6.505	4.05	0.62	40.50	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2093	6.424	40.00	6.23	260.00	40.47	0.00	0.00	0.00	0.00	20.00	3.11	0.00	0.00	0.00	0.00	0.00	0.00
1998	2095	6.665	0.00	0.00	20.75	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2096	6.424	4.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
1998	2098	6.424	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2101	6.585	16.40	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2102	6.665	195.05	29.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2104	6.424	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.62	4.00	0.62	0.00	0.00	0.00	0.00
1998	2106	6.505	12.15	1.87	12.15	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2107	6.585	4.10	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2110	6.505	64.80	9.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2111	6.665	45.37	6.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2113	6.585	0.00	0.00	12.30	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2122	6.344	15.80	2.49	0.00	0.00	3.95	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2124	6.665	12.45	1.87	12.45	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2125	6.665	20.75	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2133	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2135	6.585	20.50	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2136	6.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2137	6.585	20.50	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2138	6.585	49.20	7.47	8.20	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2139	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2142	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2143	6.264	0.00	0.00	23.40	3.74	0.00	0.00	0.00	0.00	0.00	0.00	3.90	0.62	0.00	0.00	0.00	0.00
1998	2145	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2146	6.424	36.00	5.60	0.00	0.00	24.00	3.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2147	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.12	0.62	0.00	0.00
1998	2148	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2149	6.342	0.00	0.00	65.81	10.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2150	5.762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2151	6.585	0.00	0.00	52.97	8.04	0.00	0.00	16.30	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2153	6.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2155	6.505	0.00	0.00	24.30	3.74	0.00	0.00	12.15	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2156	6.505	0.00	0.00	9.26	1.42	0.00	0.00	18.51	2.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2157	6.505	4.05	0.62	0.00	0.00	8.10	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2159	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2160	6.505	40.50	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2162	6.585	45.10	6.85	0.00	0.00	4.10	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2164	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2165	6.665	0.00	0.00	0.00	0.00	12.45	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2167	6.585	24.60	3.74	0.00	0.00	0.00	0.00	0.00	0.00	4.10	0.62	0.00	0.00	0.00	0.00	0.00	0.00
1998	2168	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	2171	6.585	4.10	0.62	24.60	3.74	0.00	0.00	0.00	0.00	4.10	0.62	0.00	0.00	0.00	0.00	0.00	0.00
1999	2039	6.665	24.90	3.74	12.45	1.87	0.00	0.00	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	8.30	1.25
1999	2041	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2042	6.665	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2044	6.585	0.00	0.00	41.00	6.23	0.00	0.00	8.20	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2048	6.665	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2047	6.746	0.00	0.00	8.40	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2049	6.665	29.05	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2050	6.746	100.80	14.94	37.80	5.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2051	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2053	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2054	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2056	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2059	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2060	6.665	8.30	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2062	6.665	12.45	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2064	6.665	16.60	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2066	6.665	20.75	3.11	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2069	6.665	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2071	6.665	20.75	3.11	124.50	18.68	0.00	0.00	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00
1999	2073	6.665	37.35	5.60	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2074	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2075	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2077	6.665	8.30	1.25	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2079	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2081	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2082	6.665	24.90	3.74	0.00	0.00	12.45	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2083	6.665	91.30	13.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2084	6.665	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2085	6.665	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2090	6.665	20.75	3.11	70.55	10.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2092	6.665	33.20	4.98	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2093	6.665	66.40	9.96	145.25	21.79	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.62	0.00	0.00	8.30	1.25
1999	2095	6.665	0.00	0.00	53.95	8.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2096	6.665	0.00	0.00	4.74	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
1999	2097	6.746	0.00	0.00	0.00	0.00	12.60	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2098	6.665	8.30	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2101	6.665	24.90	3.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2102	6.746	50.40	7.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2104	6.665	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.62
1999	2106	6.746	4.20	0.62	8.40	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2107	6.665	12.45	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.62
1999	2109	6.585	69.70	10.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2110	6.746	180.60	26.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2111	6.746	33.60	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2113	6.665	37.35	5.60	74.70	11.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.62
1999	2122	6.746	79.80	11.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2124	6.665	0.00	0.00	41.50	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2125	6.665	62.25	9.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2131	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2133	6.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2135	6.505	60.75	9.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2136	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2137	6.665	0.00	0.00	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2138	6.585	24.60	3.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2139	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2142	6.665	4.15	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2143	6.505	0.00	0.00	36.45	5.60	0.00	0.00	0.00	0.00	4.05	0.62	0.00	0.00	0.00	0.00	0.00	0.00
1999	2145	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2146	6.665	33.20	4.98	0.00	0.00	107.9	16.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2147	6.505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2148	6.505	0.00	0.00	0.00	0.00	0.00	0.00	4.05	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2149	6.585	0.00	0.00	106.60	16.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2150	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2151	6.585	0.00	0.00	53.30	8.09	0.00	0.00	8.20	1.25	0.00	0.00	8.20	1.25	0.00	0.00	0.00	0.00
1999	2153	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2154	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2155	6.665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2156	5.832	0.00	0.00	14.53	2.49	0.00	0.00	32.68	5.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2157	6.505	0.00	0.00	0.00	0.00	76.95	11.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2159	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2160	6.505	32.40	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2162	6.505	4.05	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2164	6.585	20.50	3.11	0.00	0.00	24.60	3.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2165	6.585	0.00	0.00	0.00	0.00	12.30	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2167	6.585	36.90	5.60	4.10	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	2168	6.585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2044	7.027	0.00	0.00	85.00	12.10	0.00	0.00	10.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2046	6.956	0.00	0.00	9.90	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2047	6.956	0.00	0.00	9.90	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2049	7.027	30.00	4.27	15.00	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.71
2000	2050	6.956	55.24	7.94	40.17	5.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2051	6.956	0.00	0.00	54.45	7.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2053	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2054	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2056	6.956	4.95	0.71	0.00	0.00	4.95	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2059	6.956	19.80	2.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2060	7.027	35.00	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2062	6.956	9.90	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2064	7.027	20.00	2.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2066	6.956	19.94	2.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2069	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2071	7.027	0.00	0.00	125.00	17.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.71
2000	2073	7.027	14.89	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2074	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2075	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2077	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2079	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2081	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2082	7.027	5.00	0.71	0.00	0.00	10.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2083	6.956	183.15	26.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2084	6.956	0.00	0.00	10.34	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2085	6.956	19.80	2.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2090	7.027	45.00	6.40	75.00	10.67	0.00	0.00	0.00	0.00	5.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00
2000	2092	1.988	0.00	0.00	0.00	0.00	6.60	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2093	6.726	86.14	12.81	143.57	21.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2095	6.956	0.00	0.00	29.70	4.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2096	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
2000	2098	6.956	4.95	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2101	7.027	65.00	9.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2102	7.027	129.08	18.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2104	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2106	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2107	7.027	10.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2109	6.956	44.55	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2110	6.956	204.41	29.38	9.97	1.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2111	6.956	19.80	2.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2113	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2122	7.027	0.00	0.00	0.00	0.00	5.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2124	6.956	0.00	0.00	54.45	7.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2125	6.956	39.32	5.65	0.00	0.00	4.91	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2131	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.71
2000	2133	6.956	0.00	0.00	36.20	5.20	0.00	0.00	5.17	0.74	0.00	0.00	0.00	0.00	0.00	0.00	5.17	0.74
2000	2135	6.525	27.86	4.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2136	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2137	6.956	14.85	2.14	4.95	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2138	6.956	54.84	7.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2139	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2142	6.956	29.70	4.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2143	6.525	0.00	0.00	22.57	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2145	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2146	6.956	0.00	0.00	0.00	0.00	74.25	10.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2147	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2148	6.886	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2149	6.956	0.00	0.00	84.15	12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2150	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2151	6.886	0.00	0.00	58.80	8.54	0.00	0.00	44.10	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2153	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2154	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2155	6.956	0.00	0.00	0.00	0.00	0.00	0.00	4.95	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2156	6.956	0.00	0.00	19.80	2.85	0.00	0.00	29.70	4.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2157	6.956	0.00	0.00	0.00	0.00	84.15	12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2159	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2160	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2162	6.956	24.75	3.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2164	6.956	14.85	2.14	0.00	0.00	4.95	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2165	6.956	0.00	0.00	0.00	0.00	15.07	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	2167	6.956	49.50	7.12	24.75	3.56	0.00	0.00	0.00	0.00	14.85	2.14	0.00	0.00	0.00	0.00	0.00	0.00
2000	2168	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2039	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2041	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2042	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2044	5.069	0.00	0.00	25.25	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2046	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2047	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2049	5.019	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2050	5.019	25.00	4.98	10.00	1.99	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2051	5.019	0.00	0.00	10.64	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2053	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2054	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2056	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2059	5.019	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2060	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2062	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2064	5.019	20.20	4.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2066	5.069	10.10	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2069	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2071	5.069	0.00	0.00	95.95	18.93	0.00	0.00	0.00	0.00	10.10	1.99	0.00	0.00	0.00	0.00	0.00	0.00
2001	2073	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2074	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2075	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2077	5.019	20.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00
2001	2079	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2081	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.05	1.00	0.00	0.00	0.00	0.00
2001	2082	5.019	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2083	5.019	30.00	5.98	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2084	5.069	0.00	0.00	20.20	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2085	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2090	5.019	10.00	1.99	110.00	21.92	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	5.00	1.00
2001	2092	5.019	15.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2093	5.069	35.35	6.97	75.75	14.94	0.00	0.00	0.00	0.00	10.10	1.99	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
2001	2095	4.969	0.00	0.00	29.70	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2096	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2098	5.069	10.10	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2101	5.019	30.00	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2102	5.069	55.55	10.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2104	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2106	5.019	5.00	1.00	25.00	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2107	5.019	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2109	5.019	10.00	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2110	5.019	155.00	30.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2111	5.019	35.00	6.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2113	5.019	40.00	7.97	45.00	8.97	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2122	5.019	25.00	4.98	0.00	0.00	15.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2124	5.019	0.00	0.00	30.00	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2125	5.069	25.25	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2131	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2133	5.019	0.00	0.00	29.41	5.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2135	4.969	64.35	12.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2136	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2137	4.969	29.12	5.86	9.71	1.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2138	5.019	15.15	3.02	15.15	3.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2139	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2142	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2143	5.019	0.00	0.00	19.61	3.91	0.00	0.00	0.00	0.00	19.61	3.91	0.00	0.00	0.00	0.00	0.00	0.00
2001	2145	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2146	5.019	10.00	1.99	0.00	0.00	160.0	31.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2147	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2148	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2149	4.969	0.00	0.00	70.00	14.09	0.00	0.00	0.00	0.00	5.00	1.01	0.00	0.00	0.00	0.00	0.00	0.00
2001	2150	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2151	4.969	0.00	0.00	79.20	15.94	0.00	0.00	19.80	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2153	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2154	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2155	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2156	4.969	0.00	0.00	4.95	1.00	0.00	0.00	9.90	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2157	4.969	0.00	0.00	0.00	0.00	9.80	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2159	4.919	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2160	5.019	40.00	7.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2162	4.919	14.70	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2164	4.969	45.46	9.15	0.00	0.00	15.15	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2165	4.969	0.00	0.00	0.00	0.00	59.40	11.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	2167	5.019	121.21	24.15	50.51	10.06	0.00	0.00	0.00	0.00	15.15	3.02	0.00	0.00	0.00	0.00	10.10	2.01
2001	2168	4.969	4.85	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2039	4.969	0.00	0.00	4.95	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2041	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2042	4.969	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2044	5.019	0.00	0.00	25.77	5.14	0.00	0.00	5.15	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2046	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2047	5.019	0.00	0.00	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2049	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2050	5.019	60.00	11.95	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2051	5.019	0.00	0.00	10.00	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2053	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2054	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2056	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2059	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2060	5.019	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2062	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2064	5.069	5.05	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2066	4.969	4.71	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2069	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2071	5.019	0.00	0.00	35.00	6.97	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2073	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2074	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2075	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2077	5.019	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2079	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2081	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2082	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2083	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2084	5.069	0.00	0.00	15.15	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2085	5.019	10.00	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2090	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
2002	2092	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2093	5.019	10.00	1.99	105.00	20.92	0.00	0.00	0.00	0.00	20.00	3.99	0.00	0.00	0.00	0.00	5.00	1.00
2002	2095	5.019	0.00	0.00	25.00	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2096	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2098	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2101	5.019	44.55	8.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2102	5.019	80.00	15.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2104	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2106	5.069	0.00	0.00	5.05	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2107	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2109	5.069	10.10	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2110	5.019	15.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2111	5.069	10.10	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2113	4.969	0.00	0.00	19.80	3.99	0.00	0.00	0.00	0.00	0.00	0.00	4.95	1.00	0.00	0.00	0.00	0.00
2002	2122	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2124	5.019	0.00	0.00	20.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2125	5.019	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2131	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2133	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2135	5.019	60.61	12.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2136	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2137	5.019	10.00	1.99	15.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2138	5.019	20.00	3.99	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2139	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2142	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2143	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.21	1.04	15.63	3.11	0.00	0.00	0.00	0.00
2002	2145	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2146	5.019	5.00	1.00	0.00	0.00	45.00	8.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2147	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2148	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2149	5.019	0.00	0.00	15.00	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2150	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2151	5.019	0.00	0.00	30.00	5.98	0.00	0.00	10.00	1.99	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2153	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2154	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2155	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2156	5.019	0.00	0.00	10.00	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2157	5.019	0.00	0.00	0.00	0.00	35.00	6.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2159	5.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2160	4.969	4.95	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2162	5.019	5.05	1.01	0.00	0.00	5.05	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2164	5.019	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2165	5.019	0.00	0.00	0.00	0.00	10.00	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2167	5.019	85.00	16.94	20.00	3.99	0.00	0.00	0.00	0.00	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	2168	5.069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2039	7.950	9.00	1.13	7.00	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2041	8.031	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2042	8.031	0.00	0.00	7.00	0.87	0.00	0.00	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2044	8.111	0.00	0.00	46.00	5.67	0.00	0.00	10.00	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2046	8.031	0.00	0.00	2.00	0.25	0.00	0.00	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2047	8.031	0.00	0.00	4.00	0.50	0.00	0.00	12.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2049	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2050	8.111	10.00	1.23	1.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2051	8.031	0.00	0.00	9.00	1.12	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2053	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2054	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2056	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2060	8.031	1.00	0.13	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2062	8.031	2.00	0.25	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2066	8.031	3.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2069	8.031	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2071	8.031	8.00	1.00	58.00	7.22	0.00	0.00	0.00	0.00	5.00	0.62	1.00	0.13	0.00	0.00	0.00	0.00
2003	2073	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2074	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2075	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2077	8.031	14.00	1.74	5.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2079	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2081	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2082	8.031	12.00	1.49	0.00	0.00	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2083	8.031	16.00	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2084	8.031	0.00	0.00	3.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2085	8.111	1.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2090	8.031	7.00	0.87	52.00	6.48	0.00	0.00	1.00	0.13	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
2003	2092	8.031	2.00	0.25	0.00	0.00	13.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2093	7.950	48.00	6.04	183.00	23.02	0.00	0.00	0.00	0.00	10.00	1.26	0.00	0.00	0.00	0.00	3.00	0.38
2003	2095	8.031	0.00	0.00	41.00	5.11	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2003	2096	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2098	7.950	5.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2101	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2102	7.950	2.00	0.25	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2104	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2106	7.950	13.00	1.64	7.00	0.88	0.00	0.00	0.00	0.00	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
2003	2107	8.031	8.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2108	8.031	29.00	3.61	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2110	7.870	228.00	28.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2111	7.950	33.00	4.15	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2003	2113	7.950	0.00	0.00	6.00	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2122	8.031	18.00	2.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2124	8.031	1.00	0.13	17.00	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2125	8.031	50.00	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2131	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2133	8.031	0.00	0.00	20.00	2.49	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00
2003	2135	7.950	66.00	8.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2136	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2137	7.950	16.00	2.01	6.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2138	8.031	16.00	1.99	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2139	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2142	7.950	8.00	1.01	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2143	8.031	0.00	0.00	13.00	1.62	0.00	0.00	0.00	0.00	12.00	1.49	1.00	0.13	0.00	0.00	3.00	0.37
2003	2145	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2146	8.031	44.00	5.48	0.00	0.00	89.00	11.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2147	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2148	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2149	8.031	0.00	0.00	34.00	4.23	0.00	0.00	0.00	0.00	3.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00
2003	2150	8.031	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2151	8.031	0.00	0.00	35.00	4.36	0.00	0.00	11.00	1.37	6.00	0.75	7.00	0.87	0.00	0.00	1.00	0.13
2003	2153	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2154	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2155	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2156	7.950	0.00	0.00	10.00	1.26	0.00	0.00	9.00	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2157	7.950	0.00	0.00	0.00	0.00	56.00	7.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2159	7.870	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2160	7.950	10.00	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2162	8.031	9.00	1.12	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2164	7.950	15.00	1.89	0.00	0.00	21.00	2.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2165	8.031	0.00	0.00	0.00	0.00	4.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	2167	8.031	103.00	12.83	93.00	11.58	1.00	0.13	0.00	0.00	6.00	0.75	0.00	0.00	0.00	0.00	2.00	0.25
2003	2168	7.950	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	1.00	0.13
2003	2170	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2039	8.031	7.00	0.87	7.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2041	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2042	8.031	0.00	0.00	14.00	1.74	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2044	8.031	0.00	0.00	72.00	8.97	0.00	0.00	6.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2046	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2047	8.031	0.00	0.00	1.00	0.13	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2049	7.870	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00
2004	2050	7.950	64.00	8.05	15.00	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2051	7.950	0.00	0.00	5.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2053	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2054	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2004	2056	7.950	6.00	0.75	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2059	7.950	29.00	3.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2060	8.031	28.00	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2062	8.031	29.00	3.61	0.00	0.00	21.00	2.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2064	8.031	12.00	1.49	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2066	8.031	25.00	3.11	0.00	0.00	3.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2069	8.031	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2071	8.031	7.00	0.87	135.00	16.81	0.00	0.00	0.00	0.00	2.00	0.25	1.00	0.13	0.00	0.00	1.00	0.13
2004	2073	8.031	4.00	0.50	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2074	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2075	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2077	8.031	9.00	1.12	11.00	1.37	11.00	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2079	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2081	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2082	8.031	34.00	4.23	0.00	0.00	28.00	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2083	7.950	20.00	2.52	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
2004	2084	8.031	0.00	0.00	13.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2085	8.031	22.00	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2090	8.031	27.00	3.36	69.00	8.59	0.00	0.00	0.00	0.00	4.00	0.50	0.00	0.00	0.00	0.00	1.00	0.13
2004	2093	8.031	17.00	2.12	72.00	8.97	0.00	0.00	0.00	0.00	5.00	0.62	3.00	0.37	0.00	0.00	2.00	0.25
2004	2095	8.031	0.00	0.00	41.00	5.11	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2004	2096	8.111	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2098	8.031	11.00	1.37	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2004	2101	8.031	7.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2102	8.031	65.00	8.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2104	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13
2004	2106	8.031	7.00	0.87	10.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2107	8.031	5.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2109	7.950	28.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2110	7.950	67.00	8.43	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2004	2111	8.031	48.00	5.98	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2004	2113	8.031	7.00	0.87	35.00	4.36	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
2004	2122	8.031	8.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2124	8.031	0.00	0.00	56.00	6.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2125	8.031	19.00	2.37	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2131	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13
2004	2133	8.031	0.00	0.00	7.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2135	8.031	85.00	10.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2136	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2137	8.031	10.00	1.25	25.00	3.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2138	8.031	15.00	1.87	1.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2139	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2142	7.950	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2143	8.031	0.00	0.00	13.00	1.62	0.00	0.00	2.00	0.25	7.00	0.87	1.00	0.13	0.00	0.00	4.00	0.50
2004	2145	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2146	8.031	31.00	3.86	0.00	0.00	109.0	13.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2147	8.031	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00	3.00	0.37	0.00	0.00
2004	2148	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.25	0.00	0.00
2004	2149	8.031	0.00	0.00	67.00	8.34	0.00	0.00	0.00	0.00	3.00	0.37	1.00	0.13	0.00	0.00	2.00	0.25
2004	2150	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2151	7.950	0.00	0.00	27.00	3.40	0.00	0.00	17.00	2.14	6.00	0.76	5.00	0.63	0.00	0.00	0.00	0.00
2004	2153	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2154	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2155	8.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2156	8.031	0.00	0.00	20.00	2.49	0.00	0.00	30.00	3.74	0.00	0.00	1.00	0.13	0.00	0.00	0.00	0.00
2004	2157	8.031	0.00	0.00	0.00	0.00	32.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2159	7.950	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2160	8.031	3.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2162	7.950	15.00	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2164	8.031	25.00	3.11	0.00	0.00	31.00	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2165	8.031	0.00	0.00	0.00	0.00	41.00	5.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	2167	8.031	174.00	21.67	61.00	7.60	0.00	0.00	0.00	0.00	13.00	1.62	0.00	0.00	1.00	0.13	1.00	0.13
2004	2168	8.111	7.00	0.86	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
2005	2039	7.027	20.00	2.85	10.00	1.42	0.00	0.00	0.00	0.00	1.00	0.14	2.00	0.29	0.00	0.00	0.00	0.00
2005	2041	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2042	7.027	0.00	0.00	5.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2044	7.097	0.00	0.00	29.00	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2046	7.027	0.00	0.00	10.00	1.42	0.00	0.00	2.00	0.29	0.00	0.00	4.00	0.57	0.00	0.00	0.00	0.00
2005	2047	7.027	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2049	7.027	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2050	7.027	48.00	6.83	21.00	2.99	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	3.00	0.43
2005	2051	7.027	0.00	0.00	29.00	4.13	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00
2005	2053	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2054	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2056	7.027	3.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2059	7.027	5.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2060	7.027	28.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2062	7.027	12.00	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2064	7.027	10.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2066	7.027	15.00	2.14	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2069	7.027	0.00	0.00	11.00	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2071	7.027	6.00	0.85	83.00	11.81	0.00	0.00	0.00	0.00	6.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00
2005	2073	7.027	11.00	1.57	4.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2074	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2075	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2077	7.027	7.00	1.00	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2079	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2081	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2082	7.027	21.00	2.99	0.00	0.00	4.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix C continued.

Year	Station	Eff skates	RB Cnt	RB cpue	YE Cnt	YE cpue	RE Cnt	RE cpue	QB Cnt	QB cpue	SG Cnt	SG cpue	CN Cnt	CN cpue	CP Cnt	CP cpue	BC Cnt	BC cpue
2005	2083	7.027	24.00	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2084	7.027	0.00	0.00	4.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2085	7.027	8.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2090	6.886	3.00	0.44	37.00	5.37	0.00	0.00	0.00	0.00	3.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00
2005	2092	6.956	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2093	6.559	27.00	4.12	88.00	13.42	0.00	0.00	0.00	0.00	5.00	0.76	0.00	0.00	0.00	0.00	1.00	0.15
2005	2095	6.956	0.00	0.00	28.00	4.03	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00
2005	2096	6.956	0.00	0.00	3.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00
2005	2098	6.956	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2101	6.956	13.00	1.87	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00
2005	2102	6.956	63.00	9.06	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2104	7.027	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.43	0.00	0.00	0.00	0.00
2005	2106	7.027	41.00	5.84	9.00	1.28	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2107	7.027	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2109	7.027	16.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14
2005	2110	7.027	92.00	13.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2111	7.027	7.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2113	6.956	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2122	6.956	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2124	6.956	0.00	0.00	24.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00
2005	2125	6.956	58.00	8.34	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2131	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2133	6.956	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00	1.00	0.14	2.00	0.29	0.00	0.00	0.00	0.00
2005	2135	7.027	55.00	7.83	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00
2005	2136	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2137	7.027	23.00	3.27	16.00	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2138	7.027	42.00	5.98	2.00	0.29	0.00	0.00	0.00	0.00	1.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
2005	2139	6.956	0.00	0.00	2.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2142	7.027	5.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2143	7.027	0.00	0.00	4.00	0.57	0.00	0.00	0.00	0.00	10.00	1.42	0.00	0.00	0.00	0.00	1.00	0.14
2005	2145	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2148	7.027	36.00	5.12	0.00	0.00	132.0	18.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2147	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2148	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2149	7.027	0.00	0.00	37.00	5.27	0.00	0.00	0.00	0.00	4.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00
2005	2150	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2151	7.027	0.00	0.00	13.00	1.85	1.00	0.14	16.00	2.28	5.00	0.71	13.00	1.85	0.00	0.00	0.00	0.00
2005	2153	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2154	6.956	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2155	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2156	7.027	0.00	0.00	11.00	1.57	0.00	0.00	18.00	2.56	2.00	0.29	4.00	0.57	0.00	0.00	0.00	0.00
2005	2157	7.027	0.00	0.00	0.00	0.00	128.0	18.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2159	7.027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2160	7.027	13.00	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2162	6.956	6.00	0.86	1.00	0.14	4.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2164	7.027	11.00	1.57	0.00	0.00	75.00	10.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2165	6.956	1.00	0.14	0.00	0.00	35.00	5.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	2167	7.027	70.00	9.96	47.00	6.69	0.00	0.00	0.00	0.00	34.00	4.84	0.00	0.00	0.00	0.00	0.00	0.00
2005	2168	7.027	4.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00
2005	2171	7.027	15.00	2.14	28.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00